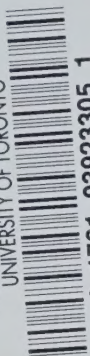


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DENTAL JOURNAL DENTAIRE

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Canadian Dental Association / Association Dentaire Canadienne

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(MC-254)





John B. Macdonald, DDS, MS, Ph.D

TASK FORCE CHAIRMAN MEETS WITH EXECUTIVE COUNCIL

Initial plans for the CDA Task Force on internal organization have been tentatively drawn-up by Dr. John B. Macdonald, Task Force chairman. Executive Council were advised and Dr. Macdonald will now meet with provincial representatives, January 9.

Provincial representatives named to date include: G.G. Orser, Fredericton; Charles Oler, Halifax; W.J. Dwyer, St. John's; Elgin K. Duke, Regina; J.E.L. Mathieson, Edmonton; G. Barrett, Charlottetown; W.L. Heaslip, Toronto.

The appointment of J.B. Macdonald as Task Force chairman has been greeted with warm enthusiasm and praise. Dr. Macdonald is presently executive director of the Council of Ontario Universities and professor of Higher Education, University of Toronto. Until 1967, he was president of The University of British Columbia.

He brings to his task a thorough knowledge of professional organizations, not only in dentistry but in other fields including federal and provincial government. His management background is impeccable, and includes the chairmanship of the Board, Banff School for Advanced Management as well as consultantships to the Canadian International Development Agency and the Ministry of State for Science.

PROPOSED AMENDMENTS TO NDEB ACT

Amendments to the National Dental Examining Board Act have been given third reading in the House, after amendment by the Commons private bills committee. On royal assent, dental specialists will be able to qualify for a single standard national certificate of qualification.

The original amendment proposed by Senator Orville Phillips (PC, PEI), a dentist, included establishing qualifying conditions for a single certificate of qualification not only for specialists but for dental auxiliaries as well. The latter groups were dropped, by the private bills committee, from the amendment.

This Bill is being enacted with the consent and co-operation of the Royal College of Dentists of Canada. The original NDEB Act of Incorporation was passed June 18, 1952 and established qualifying conditions for a single standard national dental certificate of qualification for general practitioner dentists.

SUCCESSFUL DENTAL STUDENTS' CONFERENCE

Dental students at the Fifth Canadian Dental Students' Conference in Montreal voted to increase the CDA organization in their schools. Reps will now be elected a year earlier to their term as delegates to the Conference and fourth year students will act as past delegates. CDA Student membership is over 86 per cent at UWO and 75 per cent at U of T. Other dental schools are lagging.

Elected at the Conference were: 'Tricia Courtwright, UWO as chairperson of the Sixth Conference; Terry McKay, UBC as CDA Board of Governors and National Dental Examining Board rep; Tom Larder, Dalhousie, as rep to the Dental Auxiliary Workshop in Banff and Aron Gonshor, McGill, as rep to CDA Council on Education.

HEALTH ACCREDITATION COUNCIL PROPOSED

CDA Executive Council at its December 4-6 meeting gave approval in principle to the formation of a national health accrediting agency, to be known as the Health Accreditation Council of Canada. Its role would be advisory and co-ordinative.

Formation of a non-governmental Council was proposed in 1971-72 by National Health and Welfare. Several meetings with executive officers of the major health agencies followed and a Working Group on Accreditation formed.

Council gave agreement in principle to the proposed terms of reference received from the Working Group, with one exception. It recommended that the Canadian Council on Hospital Accreditation undertake the appointment of five representatives from the health disciplines and programs. Council has recommended that, as a major health profession with an extensive involvement in accreditation of both educational and service programs, dentistry have an ongoing position on the Council and not be subject to the recommendations of the Canadian Council on Hospital Accreditation.

CONVENTION VENUE CHANGED

Growing success of the CDA National Convention, which attracted over 4,000 delegates in 1973, has necessitated a venue change from Windsor to Toronto, Ontario.

Dr. Murray Cornish, chairman, Conventions Committee, met with the Essex County Dental Society in Windsor, following the Vancouver convention, to discuss the problems which success had generated, since Windsor was awarded the Convention for 1974.

These problems included the fact that Windsor, itself, could provide adequate accommodation for less than half the anticipated delegates without booking Detroit hotels; that extensive busing would be required; and there would be a decided possibility that attendance would have to be limited.

While greatly disappointed, at not having the opportunity to host their colleagues from across Canada, the Essex County Dental Society pledged their support to the change and the organizing committee in Toronto.

Planning is now underway for a Convention which should top even Vancouver's outstanding success. Headquarters will be the spectacular new Four Seasons Sheraton, from Sunday October 6 to Wednesday October 9. The Board of Governors will meet in the same hotel, October 3-5.

LOOK FOR THE BLUE, ADVANCE REGISTRATION FORM WHICH APPEARS IN THIS ISSUE. BOOK NOW FOR THE CONVENTION OF THE YEAR!

NATIONAL DENTAL MANPOWER COMMITTEE

Federal government initiatives continue to press changes and new concepts on the Canadian Dental Association, as the national representative of Canadian dentistry.

At the invitation of the deputy minister of National Health and Welfare, Dr. W.G. McIntosh, CDA executive director, attended an exploratory meeting to consider creation of a National Dental Manpower Committee. Similar committees have already been established by the federal government for physicians and nurses.

The exploratory committee report was considered by the Executive Council, at its December 4-6 meeting. Its recommendation is that CDA participate in such a national body.

Among the fact-finding projects such a Committee could explore are: resource people for specific projects; measurement of dental service productivity; adequacy of various dental specialist manpower supplies; continuing education and re-qualification of Canadian dental personnel. It would report only to its member agencies, who would be free to act on any given matter as they deemed best.

Agencies participating in the exploratory meeting in addition to CDA were: Royal College of Dentists of Canada, National Dental Examining Board of Canada, Association of Canadian Faculties of Dentistry, Canadian Dental Hygienists Association, Canadian Dental Nurses and Assistants Association plus National Health and Welfare.

ORDER OF DENTISTS OF QUEBEC FORMED

The name of the College of Dental Surgeons of the Province of Quebec has changed to the Order of Dentists of Quebec, as a result of ratification of Laws 250 (Professional Code) and 254 (Dental Act) by the Quebec National Assembly. As of January 1, 1974 all affairs of the Corporation will be dealt with under this new designation.

In a speech December 3, president Charles Gosselin pointed out that the Laws had created a need for new structures. The Order of Dentists must make sure that the population receives the highest quality care by fully qualified dentists and, to attain this goal, the Order will take disciplinary and educational action.

The corporation's duty will be to issue "Licenses to Practise" and to provide continuing education, since all dentists will have to submit to periodic re-evaluation.

Among the new approaches will be sponsorship of a public dental health clinic in Montreal. This facility and the future addition of hospital dental services will serve as recycling and specialization centres for members.



William W.S. Karn

CDA JOURNAL APPOINTMENT

Dr. W.G. McIntosh, CDA executive director, has announced the appointment of William W.S. Karn as business manager of the Journal of the Canadian Dental Association. In making the announcement, Dr. McIntosh explained that Mr. Karn will have complete responsibility for all aspects of the Journal's advertising sales and business management. He will deal directly with advertising agencies and in-house clients for all placement, billings and service as a salaried staff-member of the Association.

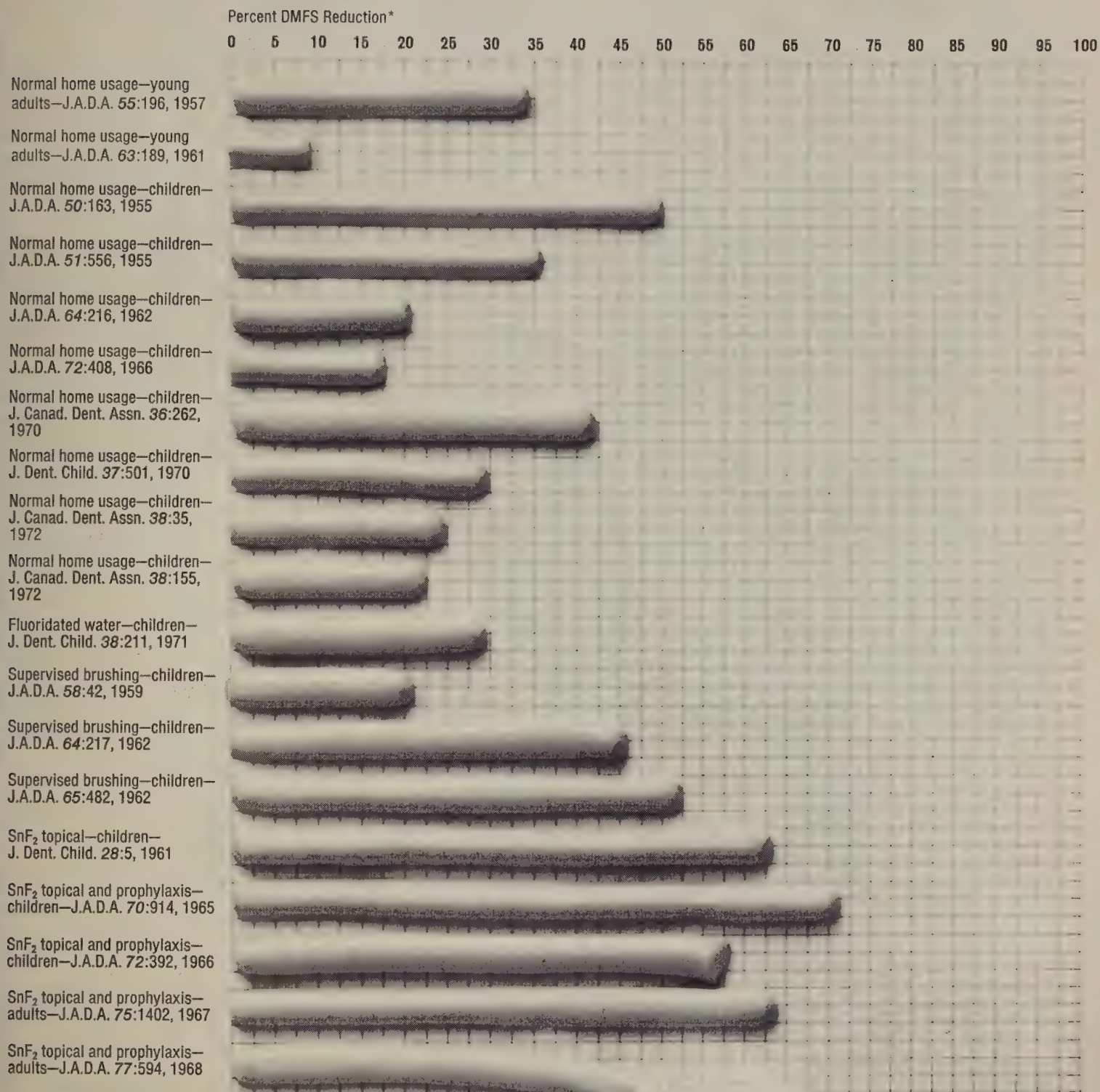
Mr. Karn has an impressive background in marketing, sales promotion and advertising, on both the manufacturer and advertising agency sides, in both consumer packaged goods and industrial products. He holds a diploma as a Certified Advertising Agency Practitioner (C.A.A.P.).

APPOINTMENT OF CDA COUNCIL CHAIRMEN

The following new Council chairmen have accepted appointments for the 1973-74 term: Dr. R.G. Dickson (Health Care); Dr. M.J. Crompton (Education); Dr. G.E. Decker (Ethics); and Dr. R.A. Hugill (Insurance and Investment).

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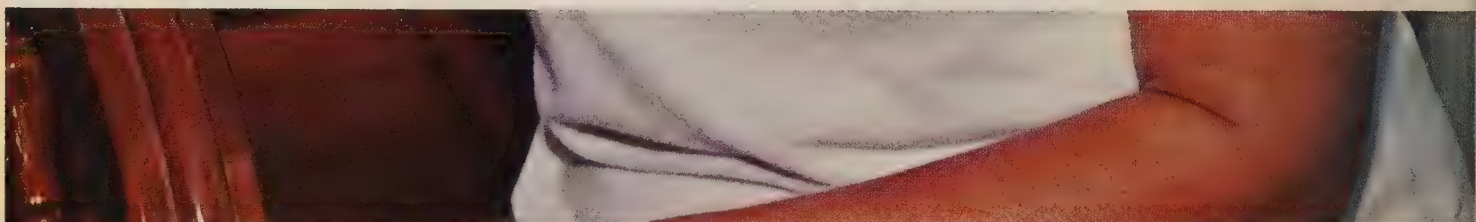
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Executive Director's Page	17
Editorials	
National Dental Health Week	13
Antibiotic therapy for the practising dentist	13
Enquêtes sur les effectifs dentaires	15
Innovations en pratique dentaire	15
Viewpoint — Communication: the profession and the public	19
Special Features	
Help your patients "kick the sweet snack habit"	41
Rapport spécial de la conférence du Conseil des Gouverneurs	33
Retirement Savings Plan	31
Your security	8
Votre sécurité	38
Regular Features	
Dentistry in the news	23
Les actualités dentaires	33
Book Reviews	67
Deaths	30
Announcements	9
Income Tax — Federal income tax returns by dentists	45
Articles	
Sequential reproduction of intra-oral radiographs — Silver, Catherall, Eastep and Myall	51
The role of dental plaque in caries and inflammatory periodontal disease — Kleinberg	56
Classified advertising	68
Advertisers' index	72

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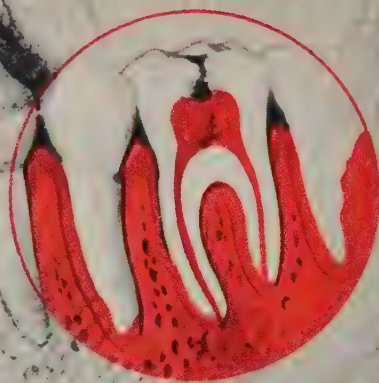
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Abonnement: Abonnés de l'Amérique du Nord (inclure Des Antilles et l'Amérique centrale) — \$10 (Canadiens) par année; abonnés européens et autres — \$15 (Canadiens). Pas de rabais aux libraires et aux agences. Abonnements payables le premier janvier. Les nouveaux abonnés voudront bien attendre de recevoir la facture avant de faire remise.

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1. Wiesenbaugh, J.M., Jr. (Mar., 1971). 31(3):302.

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Cautions: Generally well tolerated. Usual anti-infective side effects — abdominal discomfort, loose stools or diarrhoea, nausea, vomiting. Transient neutropenia (leukopenia), or abnormalities in liver function tests have been observed in a few instances. Mild hypersensitivity reactions (skin rash and urticaria) have been observed on rare occasions.

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Information about other meetings or courses, including American continuing education courses, may be obtained by writing to CDA headquarters.

Canadian Dental Association

1974 Toronto, Ont, Oct 6-9

1975 St John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14

1975 Chicago, USA, Oct 26-30

Continuing Education

Dental Handicapped

Alberta. Dentistry for handicapped children. W.J. Simpson. Apr 8-9, 1974. In Edmonton

Dental Materials

British Columbia. Adhesives in restorative dentistry. R.H. Roydhouse and A.S. Richardson. Jan 25, 1974. Regis unlimited. Dentists \$45; hygienists \$20

British Columbia. Gold foil for the general practitioner. L.W. Beamish. Feb 8-9, 1974. Regis unlimited. \$85

Endodontics

British Columbia. Fundamental endodontic technique for single-rooted teeth. Pierre R. Dow. Mar 1-2, 1974. Regis unlimited. \$65

Toronto. Endodontics. J.M. Phillips. Feb 6-8, 1974. Regis limit 10. \$100

Occlusion

British Columbia. Management of occlusal disease. W. Wood, A.G. Hannam, J.G. Silver and J. Wainwright. Feb 1, 1974. Regis unlimited. \$65

British Columbia. Occlusal correction in restorative dentistry: Lectures. W.R.

Scott and R.H. Roydhouse. Apr 5, 1974. Regis unlimited. Dentists \$35; hygienists \$15

British Columbia. Occlusal correction in restorative dentistry: with practical application. W.R. Scott and R.H. Roydhouse. Apr 5-6, 1974. Regis unlimited. Dentists \$75; hygienists \$45

Toronto. The role of occlusion in the development of the temporomandibular joint pain dysfunction syndrome. G.A. Zarb. May 6-7, 1974. Regis limit 15. \$100

Operative Dentistry

British Columbia. The use of amalgam in restorative dentistry. Lectures. F.L. Jacobson. Feb 22, 1974. Regis unlimited. Dentists \$35; assistants \$5 (with employer)

British Columbia. The use of amalgam in restorative dentistry. Lectures and clinical. F.L. Jacobson. Feb 22-24, 1974. Regis limited. \$125

Western Ontario. Recent advances in operative dentistry and endodontics. R.E. Jordan and D.H. Skinner. Mar 28-29, 1974. Regis limit 40. \$75

Oral Medicine

Western Ontario. General and oral medicine for dental practitioners. R.I. Brooke and W.C. Watson. Apr 19, 1974. Regis limit 50. \$45

Oral Surgery

Toronto. Oral surgery. P.T. Smylski. Mar 25-29, 1974. Regis limit 12. \$150

Orthodontics

Toronto. Orthodontics — prerequisite orthodontics for the G.P., R.O. Fisk. Apr 15-19, 1974

Toronto. Advanced orthodontic diagnosis emphasizing cephalometric roentgenography for orthodontists. B. Hemrend. Apr 22-23, 1974. Regis limit 5. \$100

Toronto. Orthodontics — the activator in pre-orthodontic guidance and corrective treatment procedures. D.G. Woodside. May 6-7, 1974. Regis limit 30. \$150

Toronto. Orthodontics — orthodontic technical instruction for the general practitioner. D.G. Woodside. May 27-28, 1974. Regis limit 10. \$100

Western Ontario. Design and utilization of removable orthodontic appliances in general practice. A.W. Eastwood and W.S. Hunter. Mar 14-15, 1974. Regis limit 25. \$80

Paedodontics

British Columbia. Clinical paedodontics. P. Starkey. Jan 19-20, 1974. Regis unlimited. Dentists \$65; hygienists \$20; auxiliaries (with employer) \$10

Toronto. Paedodontics. J.A. Hargreaves. May 1-3, 1974. Regis limit 12. \$100

Western Ontario. Preventive dentistry for children. W.H. Feasby, S.J. Moss and F. Cappa. Apr 8-10, 1974. Regis limit 30 dentists and 20 dental hygienists or assistants: dentists \$125; hygienists and assistants \$30

Periodontics

British Columbia. Recognition and control of periodontal disease. Mrs. Joan Voris and Mrs. Sheila Hoople. For dental hygienists only. Mar 15-16, 1974. Regis unlimited. \$45

British Columbia. Periodontics today: problems and solutions. W.B. Hall. Apr 26-27, 1974. Regis unlimited. Dentists \$65; hygienists \$20

Dalhousie. Periodontics. E.J. Hannigan, N.H. Andrews and D.G. Pentz. Jan 25-26, 1974. Regis limited. Dentists \$50, dental hygienists \$25

Toronto. Periodontics. J.E. Speck. Mar 6, 13, 20, 27 and Apr 3 and 24, 1974. Regis limit 12. \$150

Pharmacology

Western Ontario. Drugs in your practice. R.H. Johnson. Mar 8, 1974. Regis limit 45. \$45

Preventive Dentistry

Toronto. Preventive dentistry. R.C. Burgess. May 8, 15, 22, 29 and June 5 and 12, 1974. Regis limit 15. Dentists \$75; dental hygienists and assistants \$25

Western Ontario. Clinical preventive procedures for the dental office. D.W. Banting. June 14, 1974. Regis limited: 10 dental hygienists and assistants. \$50

Prosthodontics/Complete Denture

Toronto. The treatment of the edentulous patient. G.A. Zarb. Apr 1-5, 1974. Regis limit 8. \$125

Prosthodontics/Crown and Bridge

Toronto. Fixed bridgework in general practice — participating course. J.H. Hibberd. Apr 22-23; Apr 24-26; May 6-8 and May 9-10, 1974. Regis limit 15. \$200

Western Ontario. Crown and bridge for the general practitioner. D.B. Gilboe, M. Suzuki, G.A. Bedrosian, R.A. Hugill and W.R. Teteruck. Apr 25-26, 1974. Regis limit 40. \$75

Prosthodontics/Partial (removable)

Alberta. Removable partial dentures. P. Sills. Mar 14-15, 1974. In Edmonton.

Toronto. The treatment of the partially edentulous patient using removable partial dentures. G.A. Zarb. Apr 29-May 1, 1974. Regis limit 15. \$100

Western Ontario. Removable partial dentures. P.S. Sills and J.E. Ryan. Apr 4-6, 1974. Regis limit 20. \$100

Prosthodontics/Miscellaneous

Alberta. Resilient materials in denture prosthesis. W.T. Harley. Feb 6, 1974. In Calgary

Radiology

Western Ontario. Oral radiographic technique for the general practitioner. J.A. Reid and A. Ruprecht. Feb 20, 1974. Regis limit 10. \$40

Western Ontario. Radiography for dental assistants: bisecting angle technique. J.A. Reid and A. Ruprecht. Mar 8-9, 1974. Regis limit 12. \$50

Miscellaneous

British Columbia. Hospital Dentistry. R.F. Zambito, Feb 11, 1974. Regis unlimited. Fees not given

British Columbia. Plaque and preventive dietetics in the dental office. Louise Messer, Marcia Boyd and J. Tonzetich. Apr 19-20, 1974. Regis unlimited. Dentists \$50; hygienists \$30

Toronto. Emergency measures. R.S. Locke. Feb 18, 1974. Regis limit 15. \$20

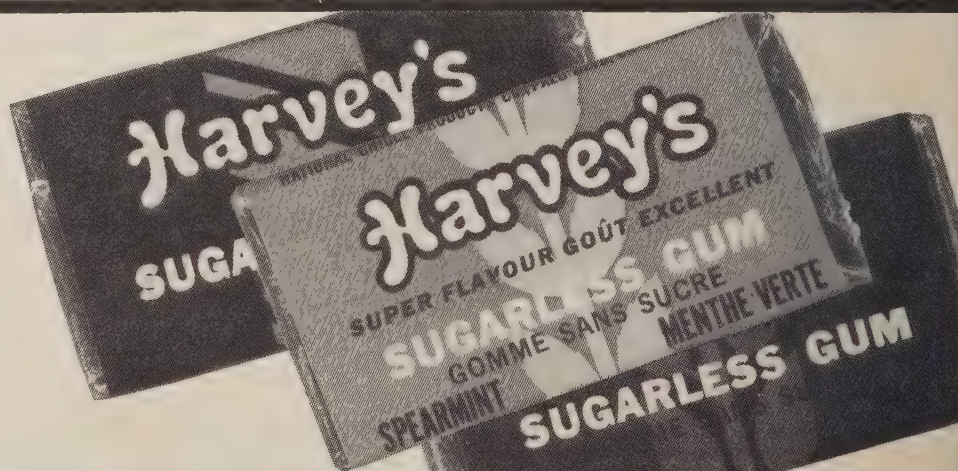
Western Ontario. The role of the activator in the mixed dentition. E.P. Harvold. Jan. 25, 1974. Regis limit 40. \$65

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National Dental Health Week — February 3-9

This year's theme "Kick the Sweet Snack Habit" coincides, by happy chance, with recommendations contained in the recent report by Nutrition Canada. One of the priorities established is "to develop a sense of individual responsibility in adopting healthy eating habits." Let us hope that there will now be more official support for preventive dentistry programs following this endorsement of what dentists have been saying for half a century. At any rate, dental practitioners across the country have a new and quotable ally in their war against misuse of sweet foods between meals, and in promotion of diets which provide the necessary elements for building strong teeth.

Individual patients will be asking what they should do to avoid sweet snacks, so Dr. M. Truuvert has prepared some information for this issue which the profession may want to give out or have available in the waiting room. The Journal grants permission for this material to be reprinted by any member of the Canadian Dental Association for use in his private practice.

Our clinical experts assure us that we presently know enough about the causes of dental caries to completely control the disease, if only the public could be persuaded to use this knowledge. During Dental Health Week the public will have all this information for personal control of dental caries made freely available. Yet experience over previous years has been that only a few will be sufficiently motivated to follow the advice and benefit. Part of the reason is that we discredit much of which accosts our ears, because we have been inundated with commercial or political nonsense and untruths pouring forth from television, radio and news-

papers (and, we have noted recently, even from a small opposition dental journal).

School science projects demonstrating how salivary bacteria produce acid from fermentable carbohydrates, use of the "swab-test" developed by Dr. M.E. Jarrett (Kitchener, Ontario) in dental health counselling, class room caries control experiments such as Dr. Mark Lazare and the West Island Dental Society have been carrying out in Montreal, brush-ins using disclosing agents, and other projects in which local dental societies can become involved; all suggest ways to crack the credibility barrier by interesting children in discovering the facts for themselves. Dental Health Week would be a good time for all local societies to initiate a teaching project in cooperation with the regional school and health authorities.

Antibiotic therapy for the practising dentist

The first of a series of five practical articles designed to bring the practising dentist up to date regarding antibiotic therapy begins in the February issue. Dr. Joan deVries and Dr. Lyman E. Francis of the Faculty of Dentistry, McGill University, will begin with penicillins, then carry on through penicillin substitutes, broad spectrum agents such as tetracycline, topicals, and finish with antibiotics for special use. We express our thanks to the authors in anticipation of a highly interesting series.

R.M.G.

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Enquêtes sur les effectifs dentaires

Statistique Canada a entrepris une enquête sur les effectifs des professions et des techniciens de niveaux supérieurs, un relevé effectué tous les dix ans en vue du recensement canadien. Nous désirons porter à votre attention que les associations dentaires nationales et provinciales peuvent obtenir l'accès à ce matériel afin de l'utiliser éventuellement au bénéfice de la profession et d'obtenir la collaboration entière de tous.

Sur ce point, nous désirons toutefois signaler le grand besoin de l'ADC et des associations provinciales de posséder beaucoup plus de détails concernant les tendances économiques de la pratique dentaire. Dans le passé, à intervalles de cinq années, l'ADC a effectué des enquêtes sur la pratique dentaire afin de combler ce besoin. Tout laisse croire qu'il nous faudra adopter une autre technique d'approche, à cause de la durée trop longue de l'intervalle entre les enquêtes et aussi à cause des frais trop élevés qu'entraîne ce projet. Le nouveau plan a été considérablement modernisé par l'emploi d'un ordinateur, évitant ainsi au dentiste pratiquant l'embarras de remplir de longs questionnaires. Par la même occasion, vos associations pourront en profiter pour recueillir des renseignements plus récents afin de répondre à leurs besoins particuliers. Dès que les dispositions seront prises, les provinces pourront inclure un sommaire des renseignements biographiques disponibles, avec l'envoi annuel des droits à l'autorisation de pratiquer.

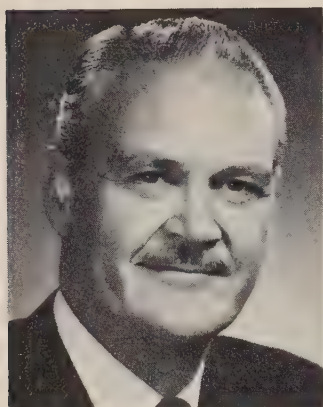
Chaque dentiste n'aura qu'à vérifier l'épreuve des renseignements et y apporter les corrections ou les additions nécessaires en plus de contrôler les réponses à une demi-douzaine de questions, avant de réadresser les formules au bureau provincial

responsable de l'autorisation. Chaque année, quelques questions supplémentaires vous seront adressées au besoin, afin de recueillir tous les renseignements désirés au cours d'une période de cinq années. Il importe que vos représentants élus dans chaque province et à l'association nationale aient en mains les renseignements les plus récents afin de pouvoir planifier efficacement leur action. L'objectif fixé englobe à cent pour cent tous les renseignements réclamés aux provinces.

Innovations en pratique dentaire

Comme suite au thème annoncé en septembre dernier, le premier d'une série d'articles par lesquels les dentistes canadiens ont accepté volontairement de décrire les modalités de leur pratique dentaire vous est présenté à la page 773 dans le numéro de Novembre. Prenez-en connaissance sans parti-pris et transmettez aux rédacteurs vos propres réactions qu'elles soient favorables ou contraires, de sorte que les autres puissent bénéficier de l'expression de votre jugement. A titre d'exemple, si la lecture du rapport du docteur Braunig vous suggère, à vous ou à un confrère, qu'il mérite d'être développé, faites-nous en part. De plus, si vous désirez écrire un article sans disposer du temps nécessaire pour le rédiger, faites appel au personnel de la rédaction. Il pourra vous aider à exprimer vos idées, à partir des faits que vous fournirez, voire même de quelques illustrations. Ce matériel constituera un point de départ.

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

CONTINUING SERIES ON CDA SERVICES

Accreditation programs

Among the more elaborate services offered by the Association are its accreditation programs. They are elaborate in terms of the number of programs to be accredited, the amount of volunteer and staff time involved, the cost, and the co-operation required from the organizations being surveyed.

The basic objective of the Association's accreditation programs is to elevate the quality of dental services available to the Canadian community. This is achieved by first establishing high minimum standards for educational and service programs. The programs are then surveyed to see if they meet the approved minimum standards. If they do, they have earned full accredited status for a given period of time, after which they must be surveyed again. If they do not, the weaknesses are pointed out and suggestions made for improvement. The severity of the weakness(es) determines the accreditation status level and the length of time within which they must ask to be resurveyed to see if deficiencies have been corrected.

By this mechanism, considerable influence is exerted on the institutions to have their programs meet the basic standards. Members of the dental profession and the public both benefit.

Responsibility for the Association's accreditation programs has been given to the Council on Education and the Council on Hospital Services. In either case, the Councils develop the appropriate minimum standards and a survey mechanism. After these are approved by the Board of Governors, the authority to implement the program is delegated by the Board to the Councils.

The Council on Education is now responsible for accrediting, on invitation, undergraduate dental

and dental hygiene programs, dental assisting programs, and graduate or postgraduate dental programs leading to a degree or certification in a specialty area recognized by the Association. The Council and its Survey Policy Committee include members representing the practitioner, the dental educator, the National Dental Examining Board and the Royal College of Dentists of Canada.

National standards for these educational programs have greatly increased the potential for portability of general practitioner dentists, specialists and dental auxiliaries across Canada. The Canadian program is also recognized by the American Dental Association with whom we enjoy a reciprocal arrangement.

The survey teams are selected by the Survey Policy Committee. The teams spend from two to four days surveying each program. A report is then produced, first for the Survey Policy Committee and then for the Council which makes the final judgment.

The Hospital Services Council is similarly responsible for assessing hospital dental services and internships and residencies that are not part of a formal educational program leading to a degree or to specialty certification. Again, the minimum requirements are developed and the hospital surveys are conducted by volunteer dentists.

Thirty-seven separate educational programs are now being serviced by the Association's accreditation system. Eight new programs have requested surveys in 1974. Since the service was instituted, upwards of 100 individual educational surveys have been completed. Twenty-five hospitals across Canada now have CDA approved dental service

continued on page 21

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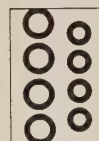


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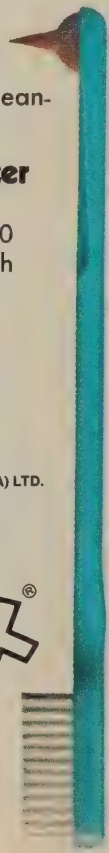
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*Goldman, H. M., and Cohen, D. W.: Periodontal Therapy, ed. 4, St. Louis, The C. V. Mosby Company, 1968, pp. 319-320.

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VIEWPOINT

Communication: the profession and the public

Historically, successful organizations have always paid attention to their relations with other organizations, governments, clients, etc. The principal purpose of such attention was to provide the organization with a clear understanding of any drastic or subtle change in their functioning environment. "Organizations" cover the world of business, the churches, professional associations, universities, political institutions, etc. Armed with the latest knowledge of shifts in public opinion, availability of resources, rivals' moves, etc., successful organizations stayed afloat and often as not prospered, while those which disregarded changes in their environment sank out of sight.

Today, all types of organizations experience difficulty in interpreting changes in their functioning environment. This is due in large measure to the sophisticated communication media, notably television. Fanned by the media, our environment contains currents of change which have a strength and speed greater than at any other time in history. Predictably, successful organizations are responding with vigour to the task of interpreting change. This is particularly noticeable in the efforts of successful business organizations to prosper in a fast-changing world.

Dentists, through our professional association, are also members of an organization. How our organization responds to the fast-changing world has a direct bearing on how each of us practises dentistry. For example, the relationship of the CDA to the government today may determine how any one dentist treats his patients tomorrow.

Generally, in a free society, it is helpful for a professional association to know what the members want. By their size, the big battalions of law and medicine have an easier task in funding the necessary organization for their task. In addition, lawyers meet regularly in courts and physicians in hospitals. Such interaction provides them with valuable opportunities for informal discussion of association business. By and large, dentists work in individual practice and are thus denied ready-made channels of communication within the profession. This fact, together with our small numbers, *vis-à-vis*

lawyers and physicians, means that we must work harder to communicate successfully among ourselves and with the public.

The following are four suggestions for good communication.

Share information — First of all, it is worthwhile to maximize the usefulness of all existing vehicles of communication such as local, provincial and national newsletters and journals. However, the best information sharing occurs through personal contact. The case has already been made that we practise dentistry in relative isolation. This fact, coupled with the swiftness with which things happen today, should encourage us to consider attending local professional meetings with the zeal of religious revivalists. It does not really matter if the topic of a guest speaker is outside one's field. Simply by being physically present at a meeting provides the opportunity for interaction with colleagues. This leads inevitably to the sharing of information about the profession in general and one's own practice in particular.

Another way of ameliorating communication problems would be to have the full-time executive directors of each provincial association spend time on the road, visiting members, filling them in on what's going on, as well as learning straight from the horse's mouth, so to speak, just what the needs of the individual dentist are. While on the road they could keep in touch with their provincial offices by telephone.

A further valuable artery of communication is through those dentists who have two loyalties. I refer to dentists in government service, the military, universities, etc. In other professions such individuals are encouraged to report the thinking of the organization to their professional colleagues. Equally, they should be prepared to take back to their other organizations the interests and concerns of our professional association. I call these "link-ages".

Circulate — In order to find out what is happening beyond our professional environment, those dentists who belong to service clubs, political

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groups, etc., might consider as a matter of routine, reporting back to their local dental societies the goings-on of these groups. Such groups also provide a splendid opportunity for dentists to monitor what the general public honestly feels and wants of dentistry. We are more likely to get an accurate viewpoint on dentistry from a stranger at a cocktail party than from a patient under treatment.

Some local dental societies already encourage knowledgeable laymen to address meetings. Now is the time to increase this sort of input. It may also be the time to invite such persons to be full members of the local society. We need all the help we can get to piece together the jigsaw of today's reality — especially as that reality is not constant.

Find the felt need — Mixing with members of other groups brings us into contact with areas of knowledge difficult to comprehend, just as others boggle at the complexities of modern dentistry. It is a common courtesy to friends in other walks of life to listen sincerely to their concerns. Generally, it is unlikely that we as dentists will come up with solutions to their problems in obscure fields. However, empathy for another's concern is always appreciated. The day may come, when as an individual dentist or as an entire profession, we need advice or a sounding board in the guise of a sympathetic friend or organization. It is comforting at such times to have respectful mutual understanding. This is particularly important when the advice we are given is unpalatable. With a solid basis of mutual understanding, we are more likely to accept bad news for what it is worth, than to

respond to it at half-cock just because we do not trust those who gave it.

Act promptly — Paradoxically, a successful organization is characterized by its ability to make decisions promptly, although some decisions may turn out to be wrong. A partial explanation of this paradox is, that while it is ideal to have all necessary information before making a decision, an ideal situation is rare. In our fast-changing world it is particularly difficult to obtain 'all the facts'. The successful organization which acts promptly in the face of inadequate information quickly finds out whether or not its decision is right. If it is right, all is well. If wrong, the successful organization's willingness to act promptly is again put into action, and a further decision is made to convert the wrong into a right.

Unsuccessful organizations, on the other hand, tend to clamour for "all the facts". Since they are unlikely to be found, decision-making is postponed and the organization never does discover what is the right or wrong decision.

Alexander E. MacLeod, DDS
Associate Professor
Division of Community Dentistry
Dalhousie University, Halifax

The opinions expressed are those of the author. Readers are invited to submit their own thoughts or comments on important professional issues to the Journal for publication as "Viewpoints." Space limitations force the editor to retain the right to edit or abridge material accepted for publication.

Continued from page 17

programs and more requests for surveys are being received each year. Manpower and funding restrictions are significant hindrances to the normal extension of these rapidly growing programs.

At the present time, no other agency is ready to mount and implement a national accreditation program in the areas mentioned above. Without CDA's efforts, the individual educational and service programs would have no national status; their graduates would not have the status nor the ease of portability across provincial borders that graduates from nationally accredited programs now enjoy. Our reciprocity with similar educational and service programs in the USA would be lost. Institutions developing new educational and service programs would not have the assistance of curriculum guidelines provided by nationally approved

minimum requirements, and program administrators would lose the extra weight of independent surveys to support their own requests for program improvements. The major thrust to establish high and comparable dental education and service standards across Canada would be lost.

Question No. 9

Do you believe that CDA should develop and implement accreditation programs for undergraduate dental and dental hygiene programs, postgraduate dental programs, dental assisting programs, hospital dental services and internship and residency programs?

Your opinion is valuable. In order to share it with others, letters to the Executive Director may be used in the Journal, *unless the writer specifies otherwise.*



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Dental Health Week is Canada-wide

All ten provincial dental groups have notified Canadian Dental Association headquarters of decisions to sponsor Dental Health Weeks in 1974. The majority are opting for the national theme of "Kick the Sweet Snack Habit" and the dates February 3 to 9.

Alberta chairman, Dr. R.F. Valentini of Calgary is elated with a year-long budget which includes a \$5,000 grant from the province toward a plaque control program, in the two cities of Calgary and Edmonton. Starting three weeks previous, the Alberta program will peak March 9 to 15 and will tie-in with a special program planned by the students of the University of Alberta. Faculty of Dentistry.

In Ontario, Dr. R. K. Ryan is heading into the campaign with "Smile More in '74," blazoned across bright, blue smile buttons. He feels one of the major advantages his committee has is the opportunity of working closely with dentist communication officers, newly-appointed by each dental society in the province.

"Dental Health Week is an opportunity for individual dentists to actively participate in a prevention campaign and to show the public that they strongly support this aspect of dental health," Dr. Ryan says.

British Columbia will be concentrating this year on the pre-schooler and will direct their campaign to mothers so they can teach their children proper habits.

Manitoba always receives strong support from their local media and feel this year will be no exception. Highlight of the February 3-9 week will be dental health booths in major shopping plazas in Winnipeg and Brandon.



Miss Canada adds a special charm to a demonstration brush-in.

Quebec Communications Committee chairman, Dr. Claude Chicoine is working with a budget of between \$50 and \$100 thousand for a year-long prevention campaign directed at the general population. Fun for school children will come from a touring theatrical group who will stage a performance around brushing and flossing.

Whatever the theme, Dental Health Week hits at the same dental health problem — the contribution of sugars and sweet snacks to caries. Corrective action is promoted — choosing proper foods and snacks, brushing and flossing, and regular check-ups by the family dentist.

Tremendously strong support is given to the dental profession by the Canadian Dental Hygienists' Association and the Canadian Dental Nurses and Assistants Association. Members of both groups are among the most active workers during the actual week and provide much of the man (woman) power.

Support for the concept of staging a Dental Health Week each year to concentrate public attention on the personal benefits of good dental health is growing slowly but steadily as corporate members of the CDA gain confidence in staging successful promotions.

Ad Hoc Committee on Bilingualism

The following report, brought in by Chairman I. Hrabowsky and members, S. Silver and J. Casaubon, was accepted during the annual meeting of CDA's Board of Governors and has become Association policy:

- 1) that the legal and working language of the CDA be English;

(Note: "working language" is used in this context to mean the language in which official actions of the Board will be taken)

- 2) that when the headquarters is moved to Ottawa, every effort be made to engage competent, bilingual replacement and/or new staff to facilitate translations;
- 3) that unless and until the use of English only at Executive Council meetings presents a handicap to French-speaking dentists, English should continue to be the working language;

Dr. Ivan Hrabowsky, chairman of CDA's Ad Hoc Committee on Bilingualism



- 4) that translation be available at Board meetings and further that this matter be kept under study and review;
- 5) that the practice of having at least one bilingual francophone on each reference committee be continued.
- 6) that the scientific sessions be conducted in the language of the speaker and that there should be no simultaneous translation;
- 7) that statistics indicating the proportion of French content to English be published in the JOURNAL annually in both language sections;
- 8) that the Governors Letter be printed in one publication in both languages using facing pages, as soon as practicable;
- 9) that every effort be made to close the time gap and eventually make the Governors Letter into one publication;
- 10) that periodic notices appear in the Governors Letter indicating the availability in both languages;
- 11) that the English version of the TRANSACTIONS be the official version;
- 12) that the Council on communications be asked to study the cost benefit of preparing French translation for all health films and newspaper columns, if there is a demonstrated need;
- 13) that news releases be translated into both languages before they are despatched from CDA headquarters when staff translation facilities are available;
- 14) that the CDA request that companies which co-operatively provide service to our members such as CDSPI and Medifacts maintain adequate francophone services;
- 15) that the CDA continue its efforts to enrol enough francophone dentists in the CDA-Medifacts cassette program to enable us to provide these members with a French version.

The Association

Hygienist joins editorial board for cassette program

Joan S. Voris was recently appointed to the editorial board of the Canadian Dental Association's tape cassette program for continuing education. Mrs. Voris is supervisor of the Program of Dental Hygiene at the University of British Columbia's Faculty of Dentistry.

Canada and the Provinces

Merits of dental floss under study

A two-year study into the merits of dental floss in reducing tooth decay is presently being carried out by researchers at the University of Western Ontario's Faculty of Dentistry.

Dr. Gerald Z. Wright, an associate professor of paediatric dentistry, will head up the study which is being financed by a \$12,000 grant from the Department of National Health and Welfare. Also involved in the study are Dr. David Banting and Dr. W.H. Feasby, chairman of the Department of Paediatric Dentistry at the university.

The program involves more than 50 grade-one pupils in public and separate schools in the Dorchester, Ontario, area. Three women from the area have been hired by the university as research assistants and have received special training in the use of dental floss. Since it is felt that first grade children do not have the manual dexterity to floss on their own, the assistants will perform the flossing on each child daily, five days a week.

Dr. Wright feels that the assessment of the true merits of dental floss in helping reduce dental decay can be an important move in the field of preventive dentistry, at a time when much thought is being given to the provision of free dental care to school children.

National Survey identifies major nutritional problems

National Health and Welfare Minister Marc Lalonde recently tabled the first Report of the Nutrition Canada National Survey. Major findings of the report reveal that:

- a large proportion of Canadian adults are overweight;
- iron deficiency is evident in large numbers of Canadians of all ages;
- protein deficiency is evident in some pregnant women as well as in some children;
- shortage of calcium and vitamin D is evident in the diet of many infants, children and adolescents;
- vitamin C deficiency is evident in Eskimos and, to a lesser extent, among Indians.

Along with identifying major national nutritional problems, the report suggests seven priorities on which government and concerned groups should base their future action. These priorities involve:

- strengthening the government regulatory role in ensuring that the Canadian food supply is nutritionally adequate;
- developing effective programs by government and industry to inform and motivate the Canadian public to realize the value of nutrition;
- placing adequate emphasis in nutrition education programs regarding the concerns and vulnerability of certain segments of the population;
- emphasizing responsibility of the individual in adopting sound eating habits;
- gearing the training of health professionals to meet the nutritional needs of society;
- developing systems for monitoring and surveillance of the nutritional health of Canadians.

Fellowships and programs for health educators

Fellowships for health educators are being offered by the W.K. Kellogg Foundation through the University of British Columbia to a limited number of students from the health professions who are interested in preparing themselves for careers as specialists in continuing education. Programs are being provided by the Department of

Adult Education, Faculty of Education, and the Division of Continuing Education in the Health Sciences, at the diploma, master's, and doctoral levels.

The diploma and master's programs require one academic year in residence and the doctoral program requires two years in residence. This year seven nurses, one physician, one dental hygienist, one social worker, and one nutritionist are enrolled in these programs.

In addition to the degree programs for the preparation of specialists in continuing education for health professionals, other programs and activities sponsored by the W.K. Kellogg Foundation through the University of British Columbia are:

1) Training courses for health professionals in the delivery of continuing education programs. These courses are usually given in the local community itself and require one, two, or three weekends, depending on the educational needs to be met.

2) Response to requests from organizations and institutions desiring to prepare individuals for specific tasks in continuing health sciences education.

3) Short interprofessional workshops on specific aspects of continuing education in the health sciences. These mini workshops are of three to four hours' duration.

4) Providing educational resources to health professionals responsible for continuing education in the community who desire to work as a health team.

5) Short-term directed individual study for interested health professionals.

6) Assistance in the development of research in the field of continuing education in the health sciences.

Inquiries concerning the fellowships and the above programs and activities should be directed to: The Project Officer, Kellogg Foundation Grant, Continuing Education in the Health Sciences, Woodward Instructional Resources Centre, The University of British Columbia, Vancouver 8, B.C.

Grant awarded

Dr. Makoto Suzuki of the Division of Operative Dentistry at University of Western Ontario has been awarded a \$20,000 grant by the Ontario Ministry of Health to test new materials available for restorative dentistry.

Canadian Forces Dental Services



Colonel D.H. Protheroe

Promoted to Colonel

Lieutenant Colonel D. H. Protheroe has been promoted to the rank of Colonel. A 1950 graduate of the University of Alberta's Faculty of Dentistry, Colonel Protheroe also holds an MPH degree from the University of Michigan.

Colonel Protheroe has served in various posts in Canada and Europe and has held appointments within the Directorate of Dental Services and the Canadian Forces Dental Services School. He is presently Commanding Officer of 12 dental unit in Halifax.



Colonel L.A. Richardson

Lieutenant Colonel L.A. Richardson has also been promoted to the rank of Colonel. He is a 1949 graduate of the University of Alberta's Faculty

of Dentistry and has served with the Canadian Forces in Canada and Europe.

Colonel Richardson has been appointed Commandant of the Canadian Forces Dental Services School in CFB Borden, moving from his previous position with the Directorate of Dental Services in Ottawa.

Promoted to Lieutenant Colonel

Promotions to Lieutenant Colonel were recently announced for the following dental officers: J. J. B. Houde, CFB Halifax; I. A. C. MacDonald, CFB Cornwallis; C. L. Gullekson, CFB Trenton; and P. R. McQueen of CFB Borden.

Postgraduate training

Lieutenant Colonel J. J. B. Houde has received a diploma in dental public health after a one year course at the University of Toronto. He is a 1960 dental graduate of the University of Montreal and is now serving in Halifax.

Major G. H. J. Pinsonneault has completed the two year postgraduate program in orthodontics at the University of Toronto. A 1967 graduate of the University of Montreal's Faculty of Dentistry, Major Pinsonneault is now serving at CFB Cold Lake, Alberta.

Major V. J. Lanctis has completed a one year Canadian Forces Course in Toronto. He graduated from the University of Montreal in 1966 with a DDS degree and is presently serving in an administrative capacity at National Defence Headquarters in Ottawa.

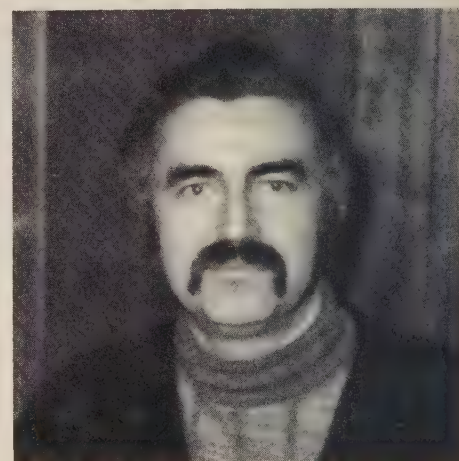
Accreditation Survey

The Canadian Dental Association's Council on Education recently conducted evaluation surveys of the dental assistant (D Clin A) and dental hygiene (D Ther 6B) programs offered by the Canadian Forces Dental Services School. Both programs were awarded the accreditation status of "Approval".

Retirements

Retirements of the following senior officers of the Canadian Forces Dental Services were recently announced: Colonel J. W. Turner; Colonel G. R. Covey; Lieutenant Colonel T. D. Cobb; Lieutenant Colonel W. W. Anglin.

Dental Organizations



Dr. R.S. Margolis

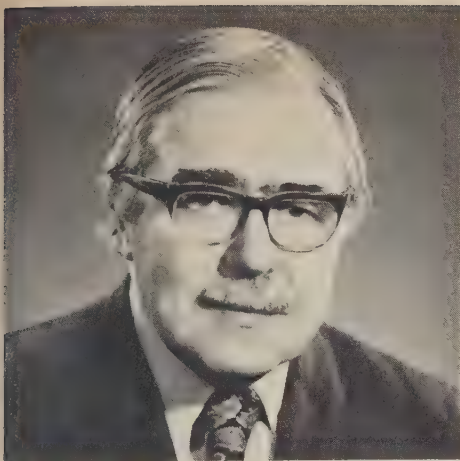
New officers for Canadian Academy of Paedodontics

Dr. R. S. Margolis of Edmonton is the new president of the Canadian Academy of Paedodontics. Other officers elected for the 1973-74 term are: Dr. Beverley Richardson of Kitchener as president-elect; and Dr. Franklin Pulver of Toronto as secretary-treasurer.

Executive for Canada's Dental Examining Board

The following slate of officers was elected at the 1973 annual meeting of the National Dental Examining Board of Canada: Dr. Donald B. Proctor, president; Dr. James D. Purves, past president; Dr. J. M. Calvert, vice president; Dr. Norman Layton and Dr. Roger Coulombe, executive.

In addition, Dr. G. Kravis of Ottawa was appointed registrar on a part-time basis.



Dr. V. Dubé

New president of the Quebec Association of Prosthodontists

Dr. Victorien Dubé has been elected the new president of the Association of Prosthodontists of Quebec. He succeeds Dr. Jean Nadeau in this position.

Dr. Dubé specialised in prosthodontics at Northwestern University of Chicago. The new president has had an extremely active professional life. He has been head of the department of removable prostheses at the University of Montreal. Dr. Dubé has also held the position of president of the College of Dental Surgeons of the Province of Quebec, after being a governor of this same organization for several years.

Council on certification for nurses and assistants

Winnipeg dental nurse and assistant Trudi Coates was recently elected to the council on certification for the Canadian Dental Nurses and Assistants Association. Mrs. Coates has worked as a dental nurse and assistant for more than 15 years.

Quebec orthodontists elect new officers

At the annual meeting of the Province of Quebec Association of Orthodontists, held recently, the following officers were elected. The president is Dr. Michael Rennert, with Dr. Lucien Bosse as vice-president. Treasurer is

Dr. Leonard Prosterman and secretary, Dr. Jean-Paul Couture. Dr. Frank Shamy is the active member without portfolio and the immediate past-president is Dr. C. Baril.

Awards and Appointments



Dr. R.J. McComb

Dr. McComb receives special recognition

Dr. R. J. McComb is the first Canadian-trained oral pathologist to become a Diplomate of the American Board of Oral Pathology.

Dr. McComb, who is presently a Medical Research Council Fellow in the University of Toronto's Department of Oral Medicine and Pathology, is a native of Bangor, County Down, in Ireland. He took his basic dental degree at the University of Edinburgh and his graduate studies at the University of Manitoba, under Dr. J.R. Trott, and at the University of Toronto, under Dr. J.H.P. Main.

International Items

ADA to study public attitudes and behaviour

Study of the current system of delivery of dental caries prevention will be the first research project of the

Division of Behavioral Sciences, newly established within the American Dental Association Research Institute.

The opening of the Institute's new division and the appointment of key staff members have been announced by Dr. C. Gordon Watson, ADA executive director, and Dr. Kirk Hoerman, Director of the Institute.

Dr. Helen G. Newman of Chicago has been named the first director of the Behavioral Sciences Division.

The opening of the division, the sixth within the young ADA Institute, is made possible in large part by a federal research contract awarded in May to study the role of the practising dentist in methods of caries prevention delivery.

Rhode Island hygienists may set a new trend

The October issue of the newsletter published by the Saskatchewan College of Dental Surgeons noted an event in Rhode Island which could set a new trend for hygienists in North America.

The Rhode Island Dental Hygienists Association has requested legislation to establish a Dental Hygienist Board which would control examinations, registration and licensure. Such legislation would remove present control from the State Board of Dental Examiners. The request for this legislation is based on the argument that hygienists are a separate profession.



Dr. H.E. Bulyea

An Apology

The November issue of the Journal carried a news story on the 100th birthday celebrations of Dr. Harry Bulyea of Edmonton. We apologize to Dr. Bulyea for misspelling his name in our story.

Research

Strontium being studied as tooth decay preventive

Research on strontium, which may lead to a reduction in tooth decay, is being conducted at the Hebrew University in Jerusalem in conjunction with US researchers. The study was inspired by US work which indicated that strontium in water is associated with a lower incidence of cavities.

Strontium appears to join with the calcium in the tooth crystal to form a more perfect crystal which, consequently, is more resistant to decay. US research reveals that rats fed strontium-rich water at a time when their fetus' teeth were developing, produced offspring more resistant to decay than a control group.

An Israeli study supports this with the findings that non-erupted and erupted teeth from the same person were not different in strontium content.

The problem of an optimum strontium level still exists. Perhaps there can be too high a concentration of strontium, which could lead to an imperfect crystal, thereby increasing the incidence of decay.

Vaccination against tooth decay in animals

Dr. J.M. Tanzer of the University of Connecticut Health Centre and Drs. G.J. Hageage and R.H. Larson of the National Institute of Dental Research in Bethesda have recently reported an encouraging immunization program against dental caries in rats.

The scientists attempted to immunize rats against *Streptococcus mutans*, a bacterium strongly implicated as a decay-causing agent in humans. When infected by these bacteria, rats

develop severe decay on both chewing and smooth surfaces of the teeth.

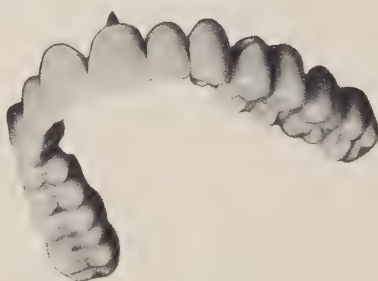
The investigators attempted to build up antibodies of *S. mutans*, making the animals resistant to decay, by injecting killed *S. mutans* prior to their infection by live bacteria. There were two control groups; one was infected but not immunized; the other was neither infected nor immunized.

Tests showed that the immunized rats developed high levels of antibody in the blood and saliva. In three experiments the immunization apparently protected the rats at least partly against tooth decay by *S. mutans*. These results are exciting, but admittedly the experimental design was variable.

Although the salivary antibody could inhibit the *S. mutans* decay, it did not kill the bacteria. Small sores also developed in the skin around the immunization injection point, but these were not bothersome to the rats.

The investigators conclude that much more must be learned before this vaccination process can be considered practical for humans.

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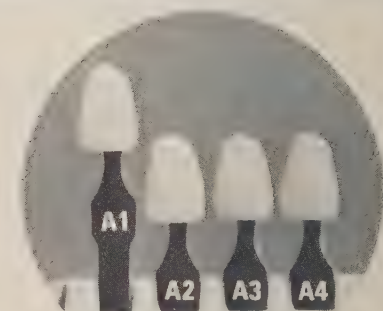
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Spelling is Important

**Electrical charges
may explain decay**

A new theory explaining tooth decay has recently been described by Dr. W.E. Brown, director of the ADA Research Unit at the National Bureau of Standards. If correct, this theory will simplify the search for new decay preventives.

Apatite, crystals of calcium, phosphate and hydroxyl ions, is the primary tooth-hardening mineral. These crystals are surrounded by a solution which also contains calcium and phosphate ions.

The fact that unlike electrical charges attract and like charges repel, helps explain how teeth lose calcium and decay from within, Dr. Brown has found. The outer tooth surface is seen as a negatively-charged membrane which charged particles can cross at varying rates.

The research suggests that positively-charged calcium ions may leave the tooth faster than negatively-charged phosphate ions. The charge imbalance allows positively-charged hydrogen ions generated by tooth-surface bacteria to enter the tooth. The hydrogen combines with the phosphate ion forms phosphoric acid and thus destroys the apatite. As crystals dissolve and more calcium leaves the tooth, more and more destructive acid enters and the tooth decays.

Dr. Brown feels that positively-charged substances could be made to keep calcium in the tooth and also allow phosphate out. The phosphate loss would make the tooth less acid and encourage apatite crystal formation.

**Endotoxin involved
in early gingivitis**

Endotoxin may be involved in early gingivitis, according to a recent report from NDIR grantees.

Dr. R. Ranney of the Virginia Commonwealth University School and Dr. E.H. Montgomery of the University of Texas Dental Branch found tha bacterial endotoxin applied to healthy gingiva increases vascular leakage, an early sign of inflammation.

The research involved four dogs. Their teeth were professionally cleaned, followed by two weeks of regular brushing and a hard nourishing diet, all to maintain clinically healthy gingiva.

Endotoxin was then applied to one gingival area and a salt solution to a second comparable area. Hours later, carbon was injected into a leg vein to assess the endotoxic effects.

Because injected carbon accumulates in areas of vascular leakage, the investigators compared the amount of carbon collected in areas treated with endotoxin with that in other areas treated with salt solution and in untreated gum line areas.

They found many minimal carbon deposits, but heavy accumulation in endotoxin-treated areas. This indicates that endotoxin can increase the

Dentist's tools?

The very next time that you're tempted to "save a buck" on mail order equipment, ask yourself how much you really save if the "bargain" fails to measure up to the daily grind. Can your long-distance discounter provide you with quick, economical repair services? Or, would you find it cheaper and faster to do the job yourself?

Let's face it, Doctor. Your professional expertise depends a lot on reliable equipment. That's why you're better off to deal with a company like Denco . . . with an established reputation for quality equipment with proven dependability . . . and backed-up with competent technical repair facilities to keep your practice running smoothly.

Beats fixing it yourself
... and may even save
you money in the
long run.



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vascular permeability in clinically healthy gingiva.

The findings, of damage to healthy gingiva from a plaque product, underscore the importance of keeping teeth free of plaque to maintain oral health.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on November 30, 1973:

Guaranteed Fund \$10.532;

Fixed Income Fund \$14.199;

Common Stock Fund \$30.020.

Total assets (market value) of the plan were \$16,047, 430.78.

The following portfolio purchases and sales occurred during the preceding month: bought, \$100,000 Royal Trust Company GIR; 5,000 shares Canadian Imperial Bank of Commerce; 2,500 shares Commonwealth Holiday Inns of Canada; 5,000 shares Dominion Foundries and Steel; 4,000 shares Labatts; 15,000 shares Northern & Central Gas Corp; 5,000 shares Union Gas; 200 shares Canadian Pacific Investment. Sold, \$150,000 Royal Trust Company GIR; \$500,000 Canadian General Electric; and \$100,000 IAC interest bearing note.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St George St, Toronto, Ont M5R 2P1.

Deaths

Eagan, James Alphonsus. 86. Toronto. Royal College of Dental Surgeons of Ontario, 1916. 26-11-73. Survived by Thomas (brother).

Glascott, James Gordon. 75. Toronto. University of Toronto, 1927. 28-11-73. Survived by Helen (wife) and Reginald (brother).

Wallace, Donald Meyers. 54. Agincourt, Ont. University of Toronto, 1943. 29-11-73. Survived by Maxine (wife); Donald and David (sons); Mrs. Marilyn Linnenbreugger, Mrs. Catharine Whelan, and Karen (daughters).

YOUR SECURITY

The last three articles dealt with building your estate with retirement in mind. Obviously since you will need to accumulate savings for 30 years or more to achieve a proper result there will be the possibility that some of us will die before our goal is reached. The difference between the amount that you have left after taxes and other liabilities are paid, and the amount necessary to support your family should be taken care of by insurance. The following three articles will explain the philosophy behind your CDA Insurance Council's choice of insurance program.

Before we leave the registered retirement savings program, I would like to make you aware of a current problem. With an insurance policy you designate a beneficiary and it becomes a part of your policy. With retirement savings plans this is not true, and unless your spouse is the sole beneficiary in your will there is danger that the plan might be deregistered and become taxable in one lump sum rather than as an annuity. The old law whereby the funds were taxed at 15 per cent when they became part of the estate no longer holds. So for safety's sake it is wise to have a codicil attached to your will designating to whom the retirement savings plan is to be left. A sample codicil could be as the following: "I give to my wife and appoint her as the beneficiary to receive, for her own use absolutely, any amount, right, profit or other benefit whatsoever that may become payable or available after my death out of any fund or plan, including any pension fund or plan, profit or deferred profit sharing plan, registered retirement savings plan or income — averaging annuity contract, in which I may be a member or participant." Even though there may be some legislative action taken to make this unnecessary in the future, it would be wise to get the advice of a lawyer or trust company regarding this matter. As a matter of fact, since the provinces are all getting into the succession duty field and these laws change very quickly from year to year, constant vigilance is required in this respect.

The Canadian Dental Association Group Life Program

Your CDA life program represents one of the most economical purchases of insurance you will ever be able to enjoy. It is safe to say it represents a rate structure more advantageous than that available to many people and agents employed within the life insurance industry itself. This phenomenon is brought about by the economies of mass purchasing, together with the extensive planning by your own Association Insurance Committee who have had the assistance and aid of competent insurance advisers, including the advice of the world's largest independent actuarial firm.

It is essential that the members understand the philosophy behind this program and the factors that have influenced the thinking of this committee.

Firstly, why should an association sponsor such a plan? The reasons, after 10 years of success, tend to be overlooked since they are now taken for granted, but they are as important now in their maturity as they were when they were merely guidelines by which the plan was formulated. The factors are as follows:

- a) To provide insurance at the most economical rates possible;
- b) To provide insurance to as many members as possible who might find it difficult or impossible to obtain otherwise;
- c) To eliminate as much red tape as possible in the actual issuing of a policy and thus provide the member with insurance with a minimum of inconvenience — no credit rating or other non-medical investigation is made in respect of a dentist. The fact that he is a member of the Canadian Dental Association suffices;
- d) To provide a tangible reason for a member to appreciate the value of his Association membership;
- e) To provide as many benefits under the CDA program as are obtainable to the member on an individual basis.

Rate structure

In the past, the question has been asked, "Why is there no common rate per \$1,000 to all participants, similar to other group plans?" The Committee found upon investigation that, unlike an employer-employee group, the average age of the

membership is difficult to determine, and further, the average age of those who would wish to participate is impossible to guess. It can only be established after the fact. In the early years of association programs the rate established per \$1,000 was based on a "guesstimate" of the average age of the members. For example, suppose the monthly rate of \$0.60 per \$1,000 was guessed at in respect of the Association. If it turned out that the average rate required was less than that amount, there was no problem. If, however, it were higher than that, then the basic problem came into being.

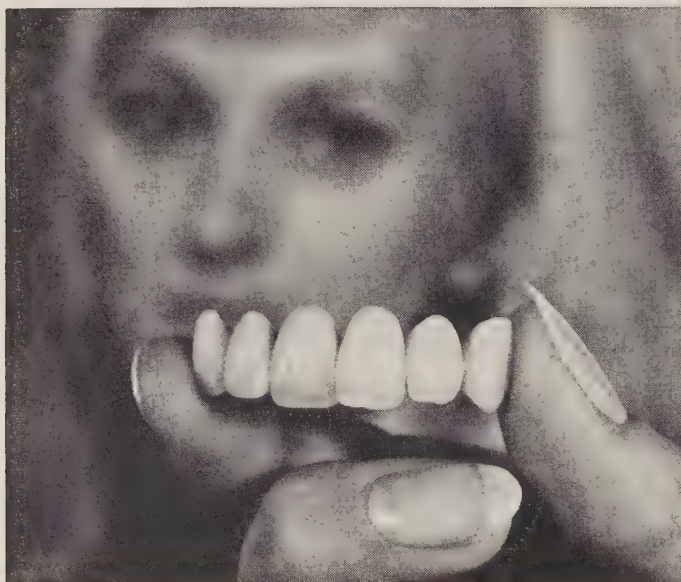
The more important factor, however, is that within any group program where a level premium is used it requires a subsidy from the younger people to pay for the older people. In the case of a closed-end group such as an employer-employee group this is no problem since the administration and a portion of the cost, if not all the cost, is assumed by the employer. In the case of an association, however, where participation is strictly voluntary, the younger members find that they can obtain individual contracts at a rate lower than the average rate for the association group. They therefore do not participate, and as a result, the average rate must be increased. With each increase in rate it becomes more economical for a layer of people at the younger ages to seek coverage outside the association, and thus another aggravation on the average rate structure and another increase. The cycle is merely repeated until the group is terminated. This can have disastrous effects since many of the individuals involved at the date of termination are unable to obtain coverage elsewhere regardless of the level of premium they are willing to pay. The Insurance Committee, therefore, created the premium structure based on quinquennial age brackets, that is:

Up to age 24	45 to 49
25 to 29	50 to 54
30 to 34	55 to 59
35 to 39	60 to 64
40 to 44	

In this way, each age level of participants enjoys a great advantage over what might be obtained on an individual basis.

These articles are supplied to the Journal by Dr. O.F. Wright of Vancouver. Dr. Wright is publicity chairman for the Canadian Dental Association's Council on Insurance and Investment.

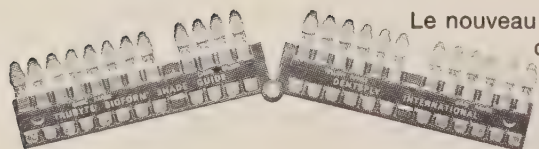
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Rapport spécial de la conférence du Conseil des Gouverneurs

Un groupe d'étude envisage les problèmes internes de l'ADC

Le Conseil des Gouverneurs recherche un président profane pour assumer la direction du groupe d'étude chargé d'examiner les problèmes internes de l'ADC.

L'existence d'un tel groupe d'étude a fait l'objet de discussions au cours de la 72e réunion annuelle du Conseil des Gouverneurs à Vancouver, du 11 au 13 octobre dernier. Les opinions se sont regroupées autour du rapport du secrétaire général réclamant la formation d'un groupe d'étude, ainsi que sur les résolutions proposées par le Québec et l'Ontario touchant les problèmes de l'adhésion des membres et résultant des lois en vigueur et des projets de lois proposés dans ces provinces.

Dans son rapport, en qualité de secrétaire général du Conseil exécutif, le docteur William G. McIntosh attira l'attention des membres sur le fait que les problèmes de l'ADC n'étaient pas de nature spontanée mais dérivait plutôt de facteurs historiques tels que celui de la structure actuelle de l'Association, en vertu de laquelle l'ADC n'a aucun pouvoir lui permettant d'appliquer les décisions et les politiques; l'incapacité de transmettre en termes significatifs l'ampleur et la valeur des services rendus aux membres; l'incapacité des dentistes individuels d'assumer la responsabilité de déterminer les objectifs, les fonctions ainsi que les implications financières destinées à supporter ces objectifs; les conséquences de la structure de l'adhésion des membres; la représentation arbitraire des membres

des corporations affiliées dans la formation du Conseil des Gouverneurs et l'incapacité d'agencer d'une manière réaliste les services et les programmes en fonction des revenus et des dépenses.

En conséquence, le Conseil a résolu:

- que soit constitué un groupe d'étude composé d'un délégué choisi par chaque membre représentant des corporations affiliées et d'un président profane, détenant le rang de membre d'une corporation, et choisi par le Conseil exécutif, afin d'élaborer des recommandations spécifiques en vue de solutionner les problèmes signalés dans le rapport du secrétaire général du Conseil exécutif.

- que soit préparé un rapport comportant les recommandations spécifiques élaborées au cours de la réunion et qu'il soit distribué à tous les gouverneurs, aux présidents des conseils de l'ADC, ainsi qu'aux présidents et aux secrétaires des membres des corporations, pour être distribué par la suite selon leur volonté. De plus, les membres ont aussi résolu de convoquer une réunion spéciale du Conseil des Gouverneurs, faisant appel aussi aux présidents et aux secrétaires généraux des membres des corporations affiliées ainsi qu'aux présidents des conseils, afin de discuter les recommandations élaborées par le groupe d'étude et d'en arriver à un accord sur chacune d'entre elles. Des règlements seraient rédigés pour répondre aux exigences des nouvelles recommandations et serait soumis ultérieurement à l'approbation de l'assemblée lors de la prochaine réunion annuelle.

Encore du Conseil

Des mesures législatives entraînent des changements dans le statut des membres du Québec et de l'Ontario



Installation du docteur Abra dans l'exercice de ses fonctions de président de l'ADC

Le docteur John E. Abra, de Winnipeg, a été installé officiellement dans l'exercice de ses fonctions en qualité de président de l'Association dentaire canadienne. Il succède au docteur David K. Peters, de St. John's, Terre-Neuve.

Le docteur Abra, un orthodontiste de Winnipeg a fait partie de la Faculté dentaire de l'Université du Manitoba depuis 1960. Il possède une vaste expérience dans le domaine des Associations. En effet, il fut président de l'Association dentaire du Manitoba, de la section ouest-moyen de l'Association des orthodontistes et de la Société canadienne des orthodontistes. Il devint

membre du Conseil des Gouverneurs de l'ADC en 1965.

Le docteur Abra est né à Winnipeg, Manitoba, où il fréquenta les écoles du lieu. Après avoir reçu le titre de docteur en chirurgie dentaire de l'Université du Minnesota, il y poursuivit des études post-doctorales en 1932.

En 1939, il s'enrôla dans le Corps dentaire royal canadien et devint par la suite commandant de la Compagnie No. 6 dans le nord-ouest européen.

Le docteur Abra est Fellow du Collège royal des dentistes du Canada ainsi que du Collège international des dentistes.

Les délégués du Québec et de l'Ontario sont arrivés à Vancouver porteurs de résolutions axées sur certains problèmes particuliers concernant les membres des corporations affiliées, résultant des dispositions de lois provinciales en vigueur ou projetées à brève échéance.

Le Collège des chirurgiens dentistes de la province de Québec, par la voix des docteurs C.E. Gosselin et Sidney Silver, présenta une explication probante de l'effet de la loi présentement en vigueur au Québec et dont les dispositions interdisent au Collège de percevoir les cotisations d'un corps constitué d'adhésions volontaires, à moins que tous les membres de la profession concernée n'approuvent le fait par un vote exprimé annuellement. En vertu de cette loi, l'adhésion conjointe des membres devient plus difficile et les dons à l'ADC devraient adopter la forme d'une subvention, sans aucun rapport avec le nombre de membres du CCDPQ. Au delà de cette contribution, tout appui à l'ADC se limiterait aux adhésions individuelles des membres à l'Association dentaire canadienne.

L'Association dentaire de l'Ontario signale qu'elle doit envisager l'effet de mesures législatives exigeant une autorisation distincte pour les membres adhérents volontaires, en vertu d'un projet de loi qui pourrait entrer en vigueur au début de 1974. Dans cette éventualité, l'Association croit qu'il faudrait lancer immédiatement une campagne de recrutement pour recueillir des membres. Les responsables de l'Association ont proposé une étude spéciale de la structure des modalités d'adhésion des membres à l'Association et de leur représentation au Conseil, ajoutant que cette tâche devrait être confiée au mécanisme du groupe d'étude.

A la lumière du rapport du secrétaire général, les propositions du Québec et de l'Ontario furent combinées au moyen de résolutions de raccordement qui entraînèrent la formation d'un groupe d'étude unique chargé immédiatement d'entrer en action.



Le docteur Norman Thomas présente au docteur Hélène Lemay-Laliberté, le prix de \$500, offert par la Fondation canadienne de recherche dentaire

Prix décernés aux étudiants cliniciens au cours des cérémonies inaugurales de la réunion annuelle

Au cours des cérémonies marquant l'ouverture de la réunion annuelle 1973 de l'Association dentaire canadienne, plusieurs étudiants cliniciens dentaires remarquables, provenant de toutes les parties du Canada, ont reçu les prix décernés par l'ADC. Les prix furent présentés par monsieur Henry Thornton, président de Dentsply International Ltd. Cette année, toutes les écoles dentaires accréditées du Canada ont participé au concours, qui comportait une démonstration de table portant sur un aspect de la recherche, du diagnostic ou des procédés dentaires.

Les premiers prix dans chaque catégorie furent remportés par Gary William Keyes, de l'Université de Toronto, dans la section des sciences fondamentales et de la recherche, et David T. O'Connell de l'Université Dalhousie de Halifax, dans la section de l'application clinique et des techniques.

Monsieur Keyes utilisa un microscope électronique d'exploration pour démontrer les différences obtenues par l'utilisation d'instruments rotatifs à basse et à haute vitesse ainsi que les résultats obtenus au moyen d'instruments manuels. Il démontra aussi les différences que présentent deux types

de matériaux dentaires de restauration à l'état non poli et à l'état poli.

Monsieur David O'Connell présente le sujet suivant: "La gravure à l'acide en dentisterie restauratrice", décrivant l'une des techniques les plus récentes dans l'emploi de matériaux de restauration. Il illustra aussi certaines améliorations que l'on apportera aux matériaux que l'on utilisera dans l'avenir. Les second et troisième prix de la section des sciences fondamentales furent remportés par Jeffery A. Williams de l'Université de Colombie-Britannique et Larbi Taleb de l'Université de Montréal.

Dans la section de la clinique, les seconds et troisième prix furent décernés à Richard Orawiec de l'Université McGill, de Montréal et à David Rusen, de l'Université du Manitoba, à Winnipeg.

Le docteur Hector MacLean, ancien doyen de la Faculté de dentisterie de l'Université du Manitoba présida le programme de cliniques de table. Il fit l'éloge des présentations de l'année.

En plus des prix Dentsply, les étudiants choisis bénéficièrent aussi de leurs frais de voyage et de séjour, à la réunion annuelle.

Les docteurs MacLean, Louis Bernier, ancien président de l'Association dentaire canadienne, et J.F. Reid, président désigné de l'Association, agirent comme juges pour la circonstance.

Lauréate du prix de la Fondation canadienne de recherche dentaire

Le prix de \$500 offert par la Fondation canadienne de recherche dentaire a été décerné au docteur Hélène Lemay-Laliberté de l'Université de Montréal. Le prix lui fut présenté au cours des cérémonies inaugurales de la réunion 1973 de l'Association dentaire canadienne à Vancouver. Le professeur Lemay-Laliberté s'est mérité ce prix pour ses travaux sur la physiologie du tissu pulpaire et sur sa signification du point de vue pharmacologique, effectués au cours d'un stage post-doctoral à l'Université de Montréal.

Le docteur Lemay-Laliberté détient un DDS de l'Université de Montréal, depuis 1970, et un MSc en pharmacologie, depuis 1972. Elle est aujourd'hui professeur de thérapie dentaire à l'Université de Montréal, tout en poursuivant ses travaux de recherche sur le tissu dentaire. Elle espère aussi pouvoir donner plus d'expansion à ses travaux dans l'avenir, en accordant à sa recherche une orientation centrée davantage sur l'aspect clinique.

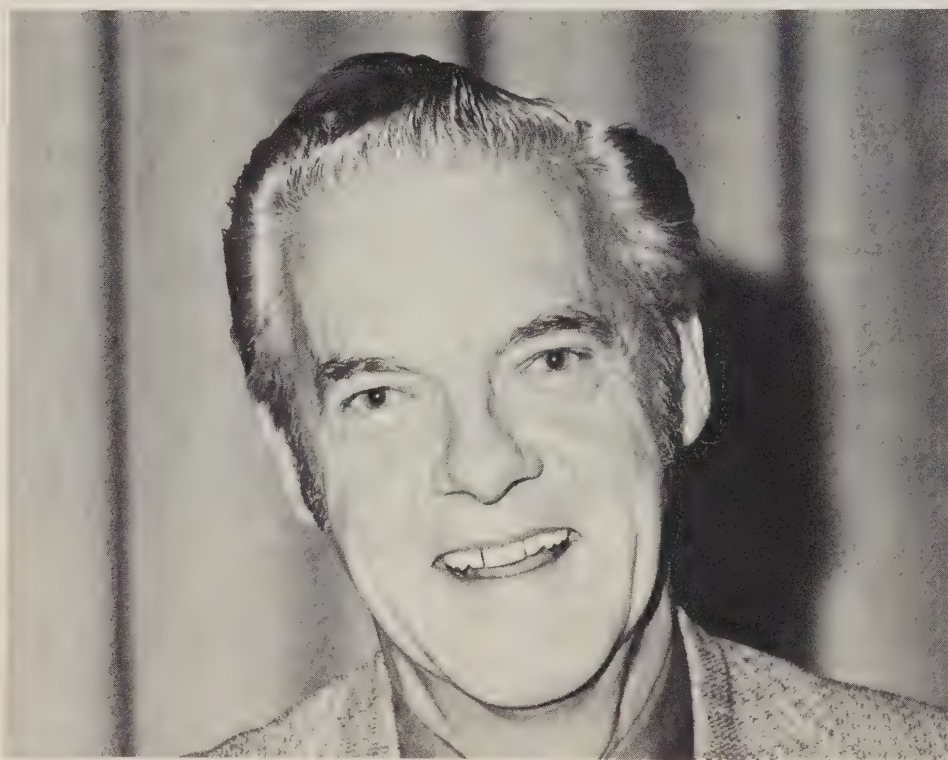
Représentation dentaire dans les comités de santé du gouvernement

Le Conseil de l'ADC s'est entendu pour tenter de déterminer si les membres des corporations affiliées sont intéressés à participer à une action coordonnée pour approcher les ministres fédéraux et provinciaux responsables des services dentaires, afin de les encourager à inclure des représentants dentaires comme membres des comités du gouvernement. Advenant l'accord général sur cette proposition, l'ADC prendra les mesures voulues pour coordonner tous les efforts afin que ce type d'approche devienne réalité.

L'ADC concerte ses efforts pour la libération de dentistes soviétiques emprisonnés

L'ADC participera activement à un effort collectif pour obtenir la libération de deux dentistes emprisonnés en Union soviétique, à la suite de prétendues menées anti-soviétiques. En adoptant cette attitude, l'Association dentaire canadienne se joint aux Associations dentaires britanniques et américaines, ainsi qu'à la Fraternité Alpha Omega pour former un front commun consacré à la libération de ces deux dentistes.

Des pétitions seront adressées au gouvernement canadien et à des hauts fonctionnaires réclamant des pressions par l'entremise d'organismes internationaux, tels que les Nations-Unies et la Croix-rouge internationale. L'ADC s'attachera aussi à obtenir l'appui des groupements dentaires organisés au pays et à l'étranger, y compris la Fédération dentaire internationale ainsi que la contrepartie de l'ADC en Union soviétique.



Le docteur Reid élu président désigné

Le docteur J.F. Reid, de Vancouver, a été choisi président désigné de l'Association dentaire canadienne. Le résultat de l'élection fut annoncé à l'issue de la réunion de trois jours du Conseil des Gouverneurs, du 11 au 13 octobre. Le docteur H.L. Mussells, de Montréal, était aussi candidat au même poste.

Diplômé de l'Université McGill, le docteur Reid participe à la pratique en groupe à Vancouver-Nord, depuis

1951. Il prit aussi une part active aux affaires dentaires au plan provincial et national depuis son élection en qualité de directeur de l'Association dentaire de la Colombie-Britannique, en 1962, dont il devint le président en 1968.

Durant son terme de président de l'ADCB, il fut nommé Gouverneur de l'Association dentaire canadienne et il fit partie du Comité Ad Hoc sur les auxiliaires dentaires (Commission Wells) de 1969 à 1971.

La santé dentaire publique et la radiologie buccale obtiennent le statut de spécialités

Le Conseil des gouverneurs de l'Association dentaire canadienne a reconnu comme spécialités la santé dentaire publique et la radiologie buccale.

La santé dentaire publique est définie comme "la science et l'art de prévenir et de réprimer les maladies dentaires et de favoriser la santé dentaire, en y appliquant les efforts concertés de la société. Il s'agit d'une forme de pratique dentaire au service de la collectivité, considérée comme un patient, plutôt qu'un service rendu à l'individu lui-même. La santé dentaire publique s'intéresse à l'éducation du public en matière de santé, à la recherche et à l'application des résultats de la recherche ainsi qu'à l'administration des programmes de soins dentaires en groupe, à la prévention et à la répression des maladies dentaires de la collectivité."

Le domaine de la radiologie buccale est défini comme suit: Cette partie de la dentisterie comportant la radiographie du complexe crânio-facial et l'interprétation des résultats obtenus.

Session d'étude sur les admissions dans les écoles dentaires

Une session d'étude nationale sur les politiques et les procédés d'admission dans les écoles dentaires aura lieu au début de février 1974, sous l'égide de l'Association dentaire canadienne.

La session consacrera principalement son activité sur l'utilisation de l'information obtenue par le test d'aptitude dentaire et s'attachera particulièrement à déterminer les besoins des comités d'admission touchant les exigences du programme.

Le docteur Burgman, président de la section d'Odontologie de la Société de médecine légale

Le docteur G.E. Burgman, de Niagara Falls, Ontario, a été élu président de la section d'Odontologie de la Société de médecine légale. La nomination a été annoncée lors de la session annuelle des affaires de la Société, tenue à l'Hôtel Vancouver, le 14 octobre dernier. Le docteur Burgman succède au docteur James D. Purves de Toronto.

L'ADC développe le Conseil des soins de santé

Le Conseil des soins de santé de l'Association dentaire canadienne sera l'objet de développements à la suite de la nomination de représentants additionnels provenant de l'Association des hygiénistes dentaires canadiens et de l'Association des infirmières et des assistantes dentaires. La décision de disposer d'une représentation plus vaste au Conseil fut prise par le Conseil des Gouverneurs de l'ADC au cours de sa réunion annuelle à Vancouver, du 11 au 13 octobre dernier.



La traduction simultanée, français — anglais, a fonctionné pendant la réunion du Conseil des gouverneurs.

L'Association Dentaire Canadienne honore deux dentistes de réputation internationale

L'Association dentaire canadienne vient de décerner sa plus haute distinction à deux cliniciens remarquables, le docteur Harry M. Worth de Vancouver, et le docteur J. Menzies Campbell d'Ecosse. Toutefois, seul le docteur Worth était présent à la cérémonie de réception des nouveaux membres honoraires de l'ADC, qui se déroula au cours du déjeuner marquant l'installation des nouveaux officiers de l'Association, à l'Hôtel Vancouver, le 17 octobre dernier.

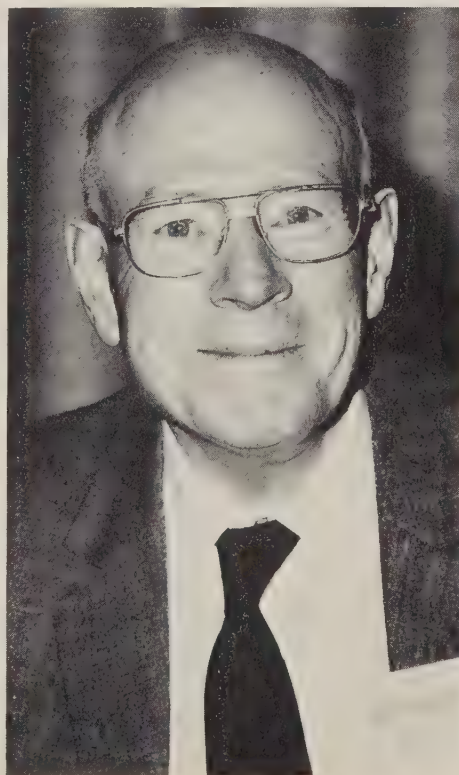
Le docteur Worth, un radiologiste de réputation internationale, participa à la réunion annuelle en qualité de conférencier au programme des sessions scientifiques. Il reçut son parchemin de membre honoraire des mains du docteur D.K. Peters, de St. John's, qui fut président en 1972-73.

Outre ses fonctions de chargé de cours dans plusieurs facultés dentaires, le docteur Worth est consultant auprès de plusieurs hôpitaux nord-américains, y compris le Hospital For Sick Children de Toronto et l'hôpital Shaughnessy du Service aux Anciens combattants à Vancouver. Il détient plusieurs titres et diplômes qui lui furent décernés au Canada, aux Etats-Unis et en Angleterre.

Le docteur J. Menzies Campbell, de Glasgow, Ecosse, fut honoré in absentia. Son parchemin de membre honoraire et la citation qui s'y rattache lui furent présentés par le docteur D.W. Gullett à sa demeure, le 26 juin

dernier. La citation du docteur Menzies Campbell dont on donna lecture à la réunion annuelle du Conseil des Gouverneurs, du 11 au 13 octobre, fait état de sa contribution prestigieuse à la dentisterie, en qualité d'historien, d'écrivain et de conférencier. La dentisterie canadienne revendique une modeste partie des mérites de sa longue et distinguée carrière, par le fait que le Docteur Campbell a reçu son diplôme de l'Ecole dentaire de Toronto, en 1912.

Dr. H.M. Worth



Le Conseil de l'ADC clarifie la signification des termes "supervision efficace"

Au cours de sa récente réunion annuelle, le Conseil des Gouverneurs de l'ADC a centré particulièrement son attention sur le terme "supervision efficace", tel qu'appliqué au dentiste et à son personnel auxiliaire, afin de tenter d'en expliciter la signification.

Dans la définition adoptée par le Conseil, ce dernier signale que le dentiste doit assumer la responsabilité ultime concernant la nature, l'étendue et la qualité des soins et des services dentaires reçus par son patient. Plus spécifiquement, la responsabilité du dentiste comporte la délimitation de l'étendue des services confiés au personnel auxiliaire, la connaissance et la capacité pour effectuer efficacement les tâches qu'il a confiées (tâches n'exigeant pas toutes les connaissances et toutes les capacités qui incombent au dentiste autorisé), et de s'assurer lui-même que les tâches assignées ont été remplies correctement et avec compétence.

La "supervision efficace" suppose aussi que l'auxiliaire dentaire traitera les patients dans les locaux du dentiste lorsqu'il y est présent.

Le Conseil des gouverneurs exhorte les corporations affiliées à restreindre la classification des auxiliaires

Le Conseil des gouverneurs de l'Association dentaire canadienne engage toutes les corporations affiliées à restreindre la classification des auxiliaires aux catégories fondamentales suivantes: assistante dentaire, hygiéniste dentaire et technicien dentaire. Le Conseil juge essentiel de standardiser les termes utilisés afin de prévenir la confusion dans l'évolution des rôles dévolus aux divers types de personnel nouveau.

Etude d'une année, conduite dans deux agglomérations de la Nouvelle-Ecosse, portant sur un matériau de scellement à fissures

Un matériau de scellement pour puits et fissures, BPA-GMA polymérisé par des rayons ultra-violet, fut utilisé sur les surfaces occlusales de dents d'enfants, dans deux agglomérations rurales de la Nouvelle-Ecosse, par des hygiénistes dentaires ayant reçu une formation spéciale. L'expérience a porté sur des paires de dents primaires et permanentes, dont la moitié servait de contrôle, chez des enfants de 3 à 11 ans. La technique recommandée par le fabricant fut utilisée pour l'application, mais le traitement à l'acide pour les dents primaires fut prolongé à 90 secondes. Après un an, le matériau de scellement était toujours retenu par les surfaces occlusales de plus de 95 pour cent des dents primaires et plus de 85 pour cent des dents permanentes. Les auteurs ont aussi noté une réduction statistiquement significative des caries sur les surfaces occlusales des dents primaires et permanentes.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 Novembre 1973:

Fonds avec garantie \$10.532;

Fonds à revenu fixe \$14.199;

Fonds d'actions ordinaires \$30.020.

L'avoir total (valeur marchande) du régime se montait à \$16,047,430.78.

Au cours du mois précédent, les transactions ont été les suivantes; achat \$100,000 Royal Trust Company GIR; 5,000 actions de Canadian Imperial Bank of Commerce; 2,500 actions Commonwealth Holiday Inns of Canada; 5,000 actions Dominion Foundries and Steel; 4,000 actions Labatts; 15,000 actions Northern & Central Gas Corp; 5,000 actions Union Gas; 200 actions Canadian Pacific Investment. Vente \$150,000 Royal Trust Company GIR; \$500,000 Canadian General Electric; et \$100,000 IAC note.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto, Ont M5R 2P1.

VOTRE SÉCURITÉ

Les trois articles précédents ont exposé les moyens à prendre pour constituer un fonds de retraite. Toutefois, puisqu'il faut accumuler vos épargnes pendant 30 années ou plus afin d'atteindre un résultat valable, il est possible que certains décèdent avant d'atteindre cet objectif. La différence entre la somme qui restera après les déductions fiscales, d'une part, et celle que nécessitera l'entretien de votre famille, d'autre part, devrait être garantie par une assurance. Les trois articles qui vont suivre expliqueront la philosophie sur laquelle repose le régime d'assurances choisi par le Conseil de l'assurance de l'ADC.

Avant de terminer l'exposé sur le régime d'épargne-retraite enregistré, nous aimerions vous informer d'un problème particulier. Un contrat d'assurance comporte le choix d'un bénéficiaire qui devient partie du contrat. Mais, dans le cas d'un régime d'épargne-retraite, ces dispositions ne s'appliquent pas, et, à moins que votre épouse constitue votre unique bénéficiaire, en vertu de votre testament, il y a un risque que l'enregistrement du régime devienne invalide, et soit soumis, par la même occasion, aux impositions du fisc, sous forme d'une somme globale plutôt que sous forme de rente viagère. L'ancienne loi, en vertu de laquelle les fonds étaient imposables dans la proportion de 15 pour cent quand ils étaient agglomérés au fonds de retraite ne s'applique plus. En conséquence, il est prudent d'ajouter à votre testament un codicille qui pourrait être rédigé ainsi: "Je lègue à mon épouse, en qualité de bénéficiaire et à son usage personnel absolu, toute somme, tous droits, tous profits ou bénéfices de toute nature, qui pourront être versés après mon décès, en vertu de tout fonds ou régime, y compris tout fonds de retraite, toute assurance avec participation ou participation différée avec bénéfices, régime enregistré d'épargne-retraite ou revenus sous forme de rente viagère, auxquels j'ai souscrit en qualité de membre ou de participant." Même dans l'éventualité où certaines lois rendraient ces formalités inutiles dans l'avenir, il serait prudent sur ce point de consulter un avocat ou la société d'investissement. En fait, puisque toutes les provinces s'intéressent maintenant aux droits successoraux, et que les lois qui s'y rattachent changent rapidement d'une année à l'autre, il importe de surveiller constamment toute modification éventuelle à ce sujet.

Le régime d'assurance collective sur la vie de l'Association dentaire canadienne

Votre régime d'assurance collective sur la vie constitue le régime le plus économique que vous puissiez vous procurer. On peut affirmer sans crainte qu'il représente une structure de taux plus avantageuse que celle dont disposent même le personnel et les agents au service de l'industrie de l'assurance sur la vie. Ce phénomène résulte des économies réalisées par l'achat en masse, joint à la planification approfondie du Comité de l'assurance de votre Association, qui bénéficie de l'assistance de conseillers en assurances compétents, y compris les conseils de la firme indépendante d'actuariat la plus considérable au monde.

Il importe que les membres comprennent la philosophie sur laquelle repose ce régime, ainsi que les facteurs qui ont influencé la pensée de ce Comité.

Tout d'abord, quelles raisons motivent une Association à parrainer un tel régime? Après dix années de gestion réussie, ces raisons, considérées aujourd'hui comme fait acquis, peuvent passer inaperçues, mais elles sont tout aussi valables à cet âge de maturité qu'à l'époque où elles ne constituaient que les lignes maîtresses du plan élaboré à l'époque. Les facteurs considérés alors furent les suivants:

a) offrir un régime d'assurances à des taux aussi économiques que possible;

b) offrir de l'assurance au plus grand nombre possible de membres qui en obtiennent difficilement ou sont incapables d'en obtenir autrement;

c) éliminer autant que possible les formalités habituelles pour établir un contrat, afin de permettre aux membres de s'en prévaloir avec un minimum d'inconvénients — aucun rapport de solvabilité ou enquête non-médicale ne sont exigés des dentistes. Il suffit que le dentiste soit membre de l'Association dentaire canadienne;

d) fournir une raison valable pour justifier l'adhésion d'un membre à l'Association et lui faire apprécier la valeur de son application;

e) fournir aux membres autant d'avantages en vertu du régime de l'ADC, qu'il est possible d'en obtenir à titre individuel.

La structure des taux

Dans le passé, on nous a demandé: "Pourquoi n'existe-t-il pas un taux commun par \$1000 pour tous les participants, comme pour d'autres régimes?"

Après enquête, le Comité a établi que contrairement à tout régime collectif employeur-employé, l'âge moyen des membres est difficile à déterminer. De plus, l'âge moyen de tous les membres qui peuvent désirer s'affilier est impossible à établir. Ces moyennes ne peuvent se déterminer qu'après coup. Au cours des premières années de la mise en vigueur des régimes de l'Association, le taux établi par \$1000 était basé sur l'estimation probable de l'âge des membres. A titre d'exemple, supposons que le taux mensuel moyen de \$0.60 par \$1000 fût établi arbitrairement pour l'Association. Dans l'éventualité où le taux fixé se montrait moindre que ce montant, il n'en résultait aucun problème. Mais, s'il dépassait ce montant, le problème de base se posait.

Toutefois, tout régime collectif où la prime est nivelée exige que les participants plus jeunes versent un subside destiné à payer pour les participants plus âgés. Pour le groupe à capital fixe, comme le groupe employeur-employé, il n'existe pas de problèmes, puisque l'administration et une partie du coût sont absorbées par l'employeur. Toutefois, dans le cas d'une association où la participation est strictement volontaire, les participants plus jeunes découvrent qu'ils peuvent obtenir des contrats individuels à un taux plus bas que le taux moyen fixé pour le régime collectif de l'Association. En conséquence, comme les jeunes membres ne participent pas, le taux moyen doit être augmenté. Chaque augmentation de taux rend plus économique, pour une certaine partie du groupe des plus jeunes, de rechercher la protection voulue à l'extérieur de l'Association. Il s'ensuit un autre rajustement entraînant une nouvelle augmentation. Ce cycle se répète tout simplement jusqu'à entraîner progressivement la fin du groupe. Une situation semblable peut avoir des résultats désastreux, puisque plusieurs participants touchés par la dissolution du groupe sont incapables de se procurer ailleurs la protection désirée, quel que soit le niveau du taux qu'ils consentent à payer. En conséquence, le Comité de l'assurance a établi la structure de groupes d'âges, c'est-à-dire:

jusqu'à 24 ans	de 45 à 49 ans
de 25 à 29 ans	de 50 à 54 ans
de 30 à 34 ans	de 55 à 59 ans
de 35 à 39 ans	de 60 à 64 ans
de 40 à 44 ans	

En adoptant ce procédé, les participants de chaque groupe d'âges bénéficient d'un avantage considérable, en comparaison à ce qu'ils pourraient obtenir sur une base individuelle.

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INTERNATIONAL DENTAL DIVISION



Help your patients 'kick the sweet snack habit'

L. Truuvert, DDS, D Paed *

Many practitioners shy away from diet counselling, even in cases where they strongly suspect a faulty diet as the main reason for the patient's caries problems. Most of us still seem to believe that only a severely restricted diet (e.g. Jay & Husbands) will prevent caries from occurring. Trying to put a patient on such a diet looks like a punishment, and extremely few patients are motivated enough to stay on it. These same practitioners, however, often have families of their own with dental health much above average. Generally, in these families, sweets are not permitted to take the place of nutritious foods during meals, but they certainly are permitted as desserts. Snacking is permitted but to a lesser extent than among the general population, and snacks are generally less cariogenic, for example, fresh fruits, chips and so forth. Sweet snacks do occur but only on special occasions.

Looking daily at patients' dietary records, we cannot fail to notice how slight modifications or substitutions would improve many of them a great deal. The present dietary pattern is often due to lack of information, to not understanding the etiology of caries, and to lack of realization of how frequent one's sugar intake really is.

It would be so simple for the dentist or an auxiliary to point out to the patient that most caries are caused by sweetened foods and drinks that are taken between meals as snacks, the stickier ones being the worst. However, an average patient is sometimes confused about the cariogenicity of certain snacks. We have to make the patient aware, for example, that even a serving of plain cereal with sugar sprinkled on it, a plain cookie, every cup of coffee or tea with sugar or honey, every sip of a sweet drink mix or a soft drink is, in fact, a

sweet snack. The whole idea of changing snacking habits will be much more acceptable to the patient if we can suggest non-cariogenic substitutes for the cariogenic snacks we are discouraging.

When substituting, try to replace sweet snacks with non-sweet ones of roughly equal caloric value, e.g. a carrot or celery stick can never replace a chocolate bar for a child, but a bag of chips most likely can. Below, we list examples of both sweet snacks and suggested substitutions. By all means, there are many, many more, but this list should be sufficient to give the patient a fair idea of what is acceptable and what is not.

Not suitable snacks

Breakfast drinks (made of powders)
Coffee or tea with sugar or honey
Sweet drink mixes
Chocolate milk
Cocoa
Malted milk
Ice cream sodas, ice cream
Cakes, pies, tarts, cookies, doughnuts
Soft drinks
Dried fruits (e.g. raisins)
Candies, lollipops, chocolate bars, marshmallows, fudge, toffee
Lozenges (even cough and throat lozenges)
Regular chewing gum
Licorice
Jam, honey, syrup

Suitable snacks

Milk
Unsweetened fruit juice
Coffee or tea without sugar (artificial sweetener is acceptable)
Tomato juice
Diet (sugar-free) soft drinks
Fresh fruits (apples, pears, oranges, grapes, peaches, bananas)
Raw fresh vegetables (carrots, celery, green peppers)
Sandwiches (ham, egg salad, tuna, salmon, cheese, meat spreads, peanut butter (plain) peanut butter with bananas)
Crackers or melba toast with: butter, cheese (any kind), peanut butter, tuna, shrimp
Cheese
Cottage cheese
Boiled or devilled eggs
Pizza
Potato chips, corn chips, wheat chips
Nuts (peanuts, cashews)
"Nuts and Bolts", "Cheesies,"
"Bugles", pretzels, popcorn
"Shreddies" (plain)
Sugarless gum

Dr. Truuvert is lecturer and instructor at the Faculty of Dentistry, Department of Preventive Dentistry, University of Toronto.



INDICATIONS: Carbocaine (brand of mepivacaine) is indicated for the production of local anesthesia for dental procedures by infiltration injection or nerve block.

CONTRAINDICATIONS: Carbocaine is contraindicated in patients with a known hypersensitivity to the amide type local anesthetics or to methylparaben which is added to the multiple dose vial solutions.

WARNINGS: RESUSCITATIVE EQUIPMENT AND DRUGS SHOULD BE IMMEDIATELY AVAILABLE WHEN ANY LOCAL ANESTHETIC IS USED.

Usage in Pregnancy: Safe use of Carbocaine has not been established with respect to adverse effects on fetal development. Careful consideration should be given to this fact before administration during pregnancy.

Solutions containing a vasoconstrictor, particularly epinephrine or norepinephrine, should be used with extreme caution in patients receiving antidepressants of the triptyline or imipramine types or MAO inhibitors

because a severe prolonged hypertension may occur.

PRECAUTIONS: The safety and effectiveness of Carbocaine depend upon proper dosage, correct technique, adequate precautions, and readiness for emergencies.

The lowest dose that results in effective anesthesia should be used to avoid high plasma levels and serious undesirable systemic side effects. Injection of repeated doses of Carbocaine may cause significant increases in blood levels with each repeated dose due to slow accumulation of the drug or its metabolites, or due to slow metabolic degradation.

Tolerance varies with the status of the patient. Debilitated, elderly patients, acutely ill patients, and children should be given reduced doses commensurate with their age and physical status.

Solutions containing a vasoconstrictor should be used cautiously in the presence of diseases which may adversely affect the patient's cardiovascular system. In persons

with known drug sensitivities or allergies Carbocaine should be used cautiously.

Serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients undergoing or following the administration of chloroform, halothane, cyclopropane, trichloroethylene, or other related anesthetics.

ADVERSE REACTIONS: Adverse reactions result from high plasma levels due to excessive dosage, rapid absorption, or inadvertent intravascular injection. Hypersensitivity, idiosyncrasy, or diminished tolerance may also cause reactions. Reactions due to overdosage (high plasma levels) are systemic and involve the central nervous system and the cardiovascular system.

Reactions involving the central nervous system are characterized by excitation and/or depression. Excitation may be followed by drowsiness, convulsions, unconsciousness, and possibly respiratory arrest.

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Reactions involving the cardiovascular system include depression of the myocardium, hypotension, bradycardia, and even cardiac arrest. Treatment of a patient with toxic reactions consists of maintaining an airway and providing ventilation using oxygen, and assisted, or controlled respiration as required. Supportive therapy of the cardiovascular system consists of using vasopressors, usually ephedrine. Convulsions may be controlled by the use of oxygen. If convulsions persist, the intravenous administration in small increments of an ultra short-acting barbiturate (i.e., thiopental, thiamylal) may be used. If these are not available, a short-acting barbiturate (secobarbital, barbital) may be used. Intravenous barbiturates should only be used by those familiar with their use. Adverse reactions are characterized by cutaneous reactions of delayed onset, or urticaria, edema, and other manifestations of allergy. The detection of sensitivity by skin testing is of doubtful value.

DOSAGE AND ADMINISTRATION: As with all local anesthetics the dose varies and depends upon the area to be anesthetized, vascularity of the tissues, individual tolerance and the technique of anesthesia. The lowest dose needed to provide effective anesthesia should be administered. For specific techniques and procedures refer to standard dental manuals and textbooks.

For infiltration and block injections in the upper or lower jaw the average dose of 1 cartridge will usually suffice. Each cartridge contains 1.8 ml. (36 mg. of 2% or 54 mg. of 3%). This dose may be doubled if necessary to effect anesthesia. The maximum dose should not exceed 3.6 mg. per pound of body weight.

Any unused portion of a cartridge should be discarded.
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solution and pH is adjusted with sodium hydroxide or hydrochloric acid in multiple dose vials.

Carbocaine HCl 2% with Neo-Cobefrin (brand of levonordefrin) 1:20,000—each ml. contains: Carbocaine HCl 20.0 mg.; Neo-Cobefrin, 0.05 mg.; sodium chloride 4.0 mg.; acetone sodium bisulfite, not more than 2.0 mg.; and water for injection. Methylparaben 1.0 mg. and sodium lactate 1.0 mg. are added to the solution and the pH is adjusted with sodium hydroxide or hydrochloric acid in multiple dose vials.

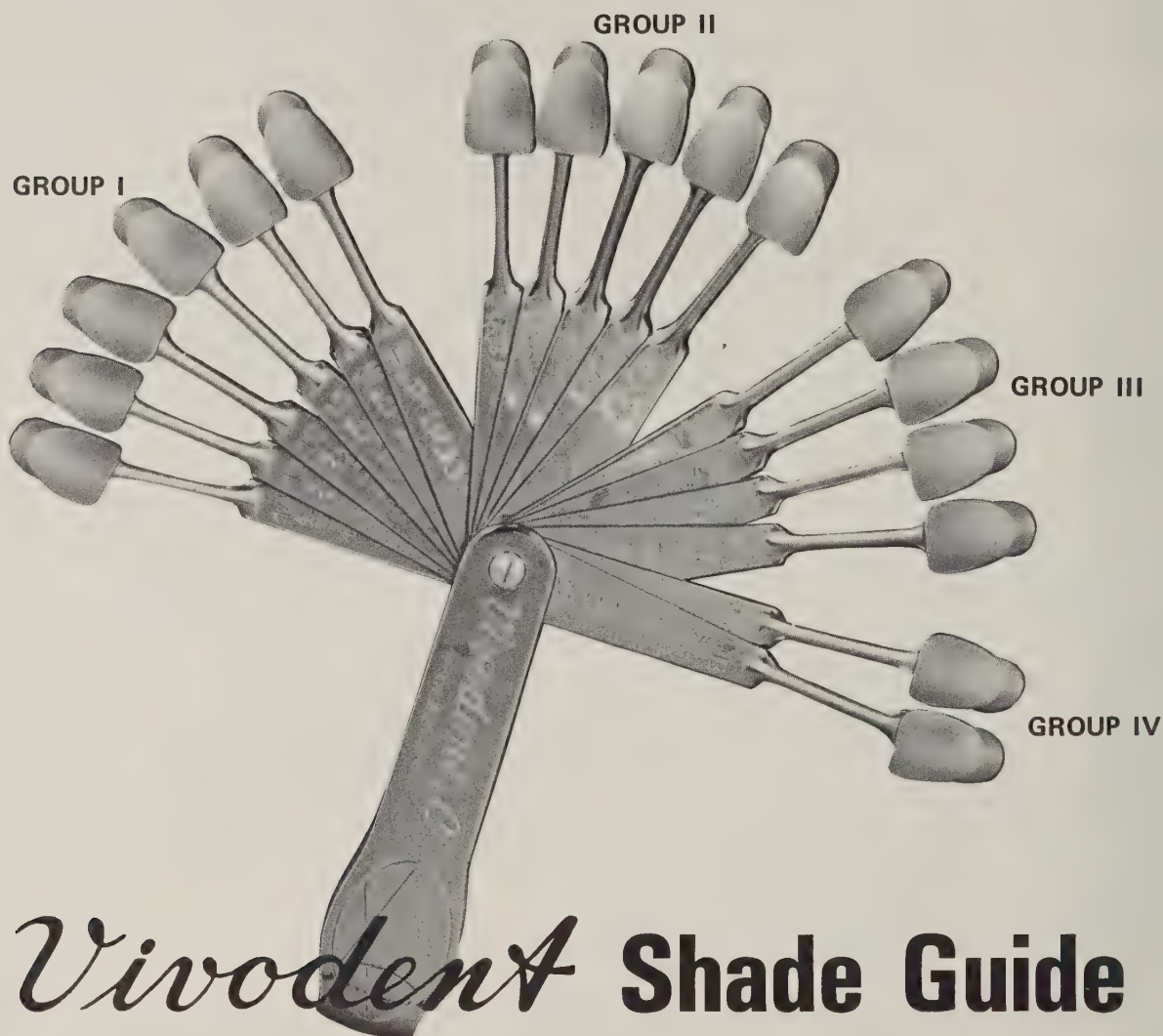
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Federal income tax returns by dentists

This article was prepared by Thorne Gunn & Company, Chartered Accountants, to assist dentists in the preparation of their annual income tax returns.

Practice Income

Since the advent of tax reform in 1972 professionals are required to compute their income on an accrual basis. The accrual method requires taxpayers to include in income at the end of each taxation year accounts receivable and work-in-progress and to deduct amounts in respect of accounts payable at the year end. The taxpayer may elect to exclude work-in-progress and therefore, if he does so elect, he need not keep detailed records of this item. If this election is made it is binding for all subsequent years and can only be revoked with the concurrence of the Minister of National Revenue.

It is necessary, therefore, to maintain a record not only of all fees billed but also those which are "receivable". An amount becomes receivable on the earliest of:

1. The day on which the account is rendered,
2. The day upon which the account would have been rendered had there been no undue delay in billing and
3. The day upon which the taxpayer was paid for the services.

A taxpayer who was in professional practice before 1972 is required to include his 1971 accounts receivable in his income for 1972. He may, however, deduct from this amount a "reserve" in accordance with prescribed limits. This reserve will depend on the taxpayer's "investment interest" in

the professional business and will enable most taxpayers to defer taxation on these 1971 receivables. The 1972 investment interest of a proprietor (as opposed to a partner) in a professional business is defined as the amount of his accounts receivable at the end of the 1972 fiscal year, less any allowance for doubtful accounts.

For each year subsequent to 1972 the taxpayer will include the prior year's reserve in income and calculate the appropriate new reserve, being the accounts receivable at the end of that year less allowance for doubtful accounts. Special rules apply to the calculation of a partner's "investment interest" and any professional practising in a partnership should probably obtain professional advice. The above only applies to persons in practice before 1972.

Practice expenses

Amounts allowed as deductions from income are expenses which have been paid or have become payable in the year, provided that they were not deductible in any prior year.

Under the heading of expenses, the following are examples of accounts which should be maintained:

- (a) Dental and like supplies;
- (b) Salaries of office help;

Amounts of salaries and wages paid to employees should be reported on Forms T4-T4A Summary and T4 Supplementary, obtainable from your District Taxation Office. The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount if paid, is to be added back to the income of the payor.

(c) Telephone expenses incurred in connection with professional practice.

(d) Dental assistants' fees:

The names and addresses of the assistants and the amounts paid to them, should be reported on Form T4A along with salaries, as in (b) above.

(e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished (See (g)). Non-resident tax must be withheld at source from rent paid to non-resident owners of rented premises and remitted to the federal tax authorities.

(f) Postage and stationery.

(g) Proportional expenses of dentists practising from their residences — (See also capital gains below):

1. Owned by the dentist: Where a dentist both resides in and practises from a house he owns, a proportionate allowance of house expenses is allowable for the laboratory, office and waiting room space, on the ratio that this space bears to the total area of the residence. The expenses include property taxes, light, heat, insurance, repairs and interest on mortgage. (Name and address of lender to be stated.) Note: For depreciation see item (m).

2. Rented by the dentist: Rent and other house expenses paid by the dentist will be apportioned in the same manner as that described above.

(h) Sundry expenses (not otherwise classified).

The expenses charged to this account should be capable of analysis and supported by records and include such things as:

1. The annual dues paid to governing bodies under which authority to practise is issued, as well as dues to other professional associations.

2. Tuition fees paid to an educational institution in Canada for a postgraduate course are an allowable deduction but no deduction may be made in respect of travelling or living expenses incurred in connection with the taking of such a course.

3. Insurance premiums, paid for such things as malpractice insurance, office contents and liability insurance, are deductible expenses. However, personal insurance premiums such as life insurance and medical insurance are not allowable.

4. Magazines, etc. for waiting room.

5. Professional textbooks and reference books:

(i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable only against the investment income. No deduction from income will be allowed for the interest paid on personal loans.

(j) Business tax will be allowed as an expense but income taxes will not be allowed.

(k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their homes or in hospitals. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income. (The manner of calculating claims for automobile expenses is described in Information Bulletin No. 28 issued by the Taxation Division of the Department of National Revenue and reprinted in part on pages 209-210 of the March 1965 issue of the Journal.)

(1) Social club dues are not allowable as a deduction. "Social club dues" means a membership or initiation fee in any club the main purpose of which is to provide dining, recreational or sporting facilities for its members. Also not allowed is an outlay or expense made or incurred by the taxpayer for the use or maintenance of a yacht, a retreat or similar property.

(m) Capital cost allowance (depreciation):

The method of computing capital cost allowance for tax purposes is essentially the same as that used last year.

For further information on this subject you may refer to the T1 Guide provided with your return or consult your District Taxation Office.

(n) Donations:

Charitable donations should not be deducted from practice income. They should be deducted in the appropriate place on your T1 form. See medical expenses and donations below.

Convention expenses

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conventions in a taxation year. The taxpayer's attendance at the convention must have been for professional reasons. The expenses to be allowed must be reasonable and the taxpayer should be able to show:

1. The dates on or between which the convention was held and the location thereof;

2. The number of days he was present at the convention, supported by a certificate of attendance from the sponsoring organization; and

3. The expenses incurred, segregating (a) transportation expenses, (b) meals, and (c) hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature, including those attributable to the fact that the taxpayer's wife (or husband) accompanied him to the convention, must be excluded.

The location of a convention must be consistent with the territorial scope of that organization. Expenses incurred in attending a convention sponsored by a Canadian organization that is held outside those geographical limits will not be deductible in computing income. For this purpose, a convention held during an ocean cruise will be viewed as being held outside Canada.

Professional partnerships

Partnership income will continue to be taxed in the hands of the partners, but there are many new features to be considered in determining income at the partnership level such as capital cost allowance provisions, treatment of 1971 accounts receivable, etc. Members should consult with professional advisers before completing the computation of the partnership income, or inquire at the District Taxation Office. Professional advice should also be obtained in drawing up partnership agreements so that unintended tax consequences do not arise.

Capital gains and losses

The Income Tax Act provides that taxpayers must include in income the excess of taxable capital gains over allowable capital losses. Taxable capital gains are defined as one-half of capital gains from disposition of capital property. An allowable capital loss is one-half of a capital loss. Ordinarily a person's residence is exempt from tax on any capital gain on disposition. Where the residence is also being used for business purposes, the taxpayer may be subject to a taxable capital gain on a portion of a capital gain realized on the sale of the residence.

Other income

Many people also have income from other sources such as rent, dividends and interest. Generally, dividends and interest are reported to the taxpayer on Form T5 and therefore require little record keeping. If any money was borrowed to earn the interest or dividend income the interest paid on the borrowed funds may be deducted from that income.

In the case of rental income, detailed records of all income and expenses must be kept. The records kept will be very similar to the records necessary for the practice income and expenses. There is a provision in the new Regulations which restricts the claiming of capital cost allowance on rental buildings to the extent of net rental income only; therefore losses cannot be created by claiming capital cost allowance.

Registered retirement savings plans

The amount that is deductible in respect of contributions to a retirement savings plan is limited to:

(a) In the case of an employee receiving a salary who is covered by a registered pension fund or plan (whether or not he contributes to the pension fund) — \$2,500 or 20 per cent of earned income minus the amount, if any, he is allowed to deduct from income for his contribution to the pension fund.

(b) In other cases, to the lesser of \$4,000 and 20 per cent of earned income. "Earned income" usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1973 and within 60 days after the end of the year. A payment made in January or February 1974 cannot be claimed in 1974 if it could have been claimed in 1973.

Individuals inquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to March 2, 1974 may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year 1973. The closing date for applications and contributions applicable to 1973 is March 1, 1974.

A personal statement of account and a receipt showing the amount of contributions should be mailed in March, 1974 to each participant to support claims made for deductions in 1973 income tax returns.

Applications for membership in CDARSP received after March 1, 1974 will entitle participants to tax deferment for 1974.

Payment of tax

Individuals whose income is more than 25 per cent derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the following dates, March 31, June 30, September 30 and December 31. The required instalments are based on either an estimate of the tax on the current year's estimated income or on the current year's income tax rates applied to the preceding year's actual taxable income. One quarter of the calculated tax plus Canada Pension Plan instal-

ments are due on each of the above dates, the balance, if any, being payable by April 30th of the following year.

Dentists on salary

The Income Tax Act provides for the deduction of certain items from salary income. The allowable expenses include annual professional dues and an employment expense deduction equal to the lesser of \$150 and 3 per cent of the income from un-employment. In addition, if the dentist is employed under a contract which requires that, in the performance of the duties of the office, he must personally pay certain expenses such as office rent, salary to assistants or substitutes, for the purchase of his own supplies and travel costs, then these expenses are deductible.

No convention expenses may be deducted from salary income.

Provincial taxes on individuals

Each of the 10 provinces imposes its own tax on the income earned by an individual in that province. With the exception of the province of Quebec, no separate provincial income tax return need be filed by an individual whose income is subject to provincial tax. The amount payable will be included with the federal payment and the method of calculation is clear from the T1 tax return.

Medical expenses and donations

A taxpayer in computing taxable income may not include in medical expenses any expense paid by

or on behalf of the taxpayer or his legal representative for which the taxpayer or such representative has been reimbursed or is entitled to be reimbursed from either a public or a private medical plan. The difference between the actual cost and amount reimbursed may be deducted. Premiums paid by an individual to a non-government medical or hospital care plan will be deductible as medical expenses, within prescribed limits.

Donations to registered Canadian charitable organizations and to certain registered sporting groups may be deducted from net income. The maximum allowable is 20 per cent of net income. You are required to keep all receipts and submit them with your return. If donations are made in excess of what is allowable for the current year they may be carried forward to the next year.

Dependent university students

Students in full time attendance at university may deduct from their income \$50 for each month that they attended university. A person supporting such a student may deduct from his income the amount the student could not claim.

Books and records

The Income Tax Act requires that books and records be kept in order to support all income and deductions claimed. These records should be maintained in such a manner as to facilitate rapid checking by income tax auditors or, indeed, your own accountants. Your records must be maintained until written permission to dispose of them is obtained from the Department of National Revenue.

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Sequential reproduction of intra-oral radiographs

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Vancouver

Sequential reproduction of intra-oral radiographs is achieved by placing the x-ray cone between two clear acetate cylinders secured to the guide ring of an extension paralleling device. Custom-fitted acrylic resin bite blocks maintain the film holder and the entire extension paralleling device in a constant relationship to the x-ray cone.

On obtient des reproductions séquentielles des radiographies intra-buccales en disposant le cone radiographique entre deux cylindres d'acétate clair, et en les assujettissant au guide du dispositif parallèle d'extension. Des blocs de résine acrylique ajustés à cette fin maintiennent le porte-film ainsi que le dispositif parallèle d'extension en relation constante avec le cone radiographique.

There are specific clinical and experimental situations in which exact sequential reproduction of radiographic images are required. Many methods have been suggested but all have technical deficiencies.

Modern radiographic equipment makes a non-fluctuating voltage source and an accurate means of timing the film exposure available to all. Radiographic films are manufactured in a standardized fashion and their processing can be performed uniformly. However, there are three further factors that are less readily controlled: (1) constant tooth-film relationship, (2) constant film x-ray source distance, and (3) constant horizontal and vertical angulation of the x-ray beam.

This article reviews the development of intra-oral localizing devices and describes a simple, fast and inexpensive technique which overcomes these problems and results in the reproduction of truly standardized radiographs.

Review of literature

In 1920 McCormack enunciated the following technical principles: "Radiographic technique, to afford a reliable basis for diagnosis, should include (1) a series of exposures made without photographic variations in order to insure uniformity of results for accurate comparisons of the normal parts of the mouth with the diseased parts; (2) a procedure so accurate that radiograms of the given part can be made at any later period, without photographic or technical variations from the first series; (3) the establishment of a radiographic

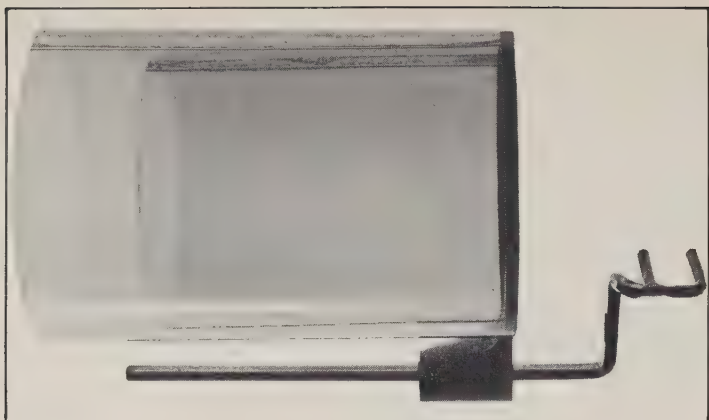


Fig 1 (Left) Concentric acetate cylinders for placement of long cone



Fig 2 (Right) Film holder fitted to bite block

normal exposure, as explained below; (4) the means (after the first series of exposures; if there appear to be pathological or physiological changes that the established exposure has not shown in sufficient detail) of making additional exposures by varying the time factor only; and (5) a procedure whereby every finished set of radiographs show the teeth in their true position and anatomical relation, to each other and to the adjacent structures of the face."¹

Not only was McCormack aware of the problems involved in obtaining accurate intra-oral radiographs, but he was able to solve many of them. He introduced the concept of increasing the distance from film to x-ray source as a means for obtaining more accurate radiographs, and also reducing patient exposure. He advocated increased tooth-film distance to allow the x-ray film to be placed parallel to the long axis of the tooth, a procedure which has been refined as the "paralleling technique" and has gained widespread acceptance today. However, his technique of placement of film and x-ray source, while providing the most accurate radiographs to that date, was not truly reproducible. Although he used a relatively constant distance from film to x-ray source, he made no mention of either film or x-ray beam angulation.

Increased tooth-film distance and more accurate parallel placement was achieved by Fitzgerald² utilizing a haemostat as a film holder with a rubber bite block placed over the box-lock of the beaks. It was still necessary to have the patient's occlusal plane parallel to the floor and there was no method of ensuring that the x-ray beam was truly perpendicular to the film. These problems were to be overcome at a later date.

An alternative means of placing the film in the required position was devised by Updegrave in

1951.³ It involved the use of a plastic film holder which kept the film at a constant angulation to the biting surface of a bite block. In addition he attempted to control the distance of the x-ray source from the patient by connecting the x-ray cone, by means of a wire rod, to a ring which was placed against the patient's face. A subsequent modification affixed the ring to the bite block rather than the x-ray source.⁴⁻⁶ The classical conical cone at the x-ray source was discarded in favour of cylindrical "long cones" as they reduced the area irradiated by the use of collimating rings.⁴ The diameter of the long cone was the same as that of the guide ring now attached to the film holder. By placing the long cone flush with the guide ring it was possible to achieve far more standardized radiographs than with previous techniques. In addition this was accomplished without reference to the patient's head position.

Further methods for standardization have been suggested utilizing a light source. One method involves a complicated bisecting angle technique, the use of a light-spot projected on the face, an additional horizontal angulation scale and special technique of marking the position of the long cone on the face.⁷ Although the authors claim only a 9.4 per cent geometric error in 480 radiographs, the film is held in position by the patient's fingers, a practice which must be open to question when satisfactory film holders are available. An apparently more accurate method of light source standardization, using custom-made film holders and mirror reflections of the light source on the face, has given successful experimental results on dried skulls.⁸

The techniques described above have done much to reduce distortion and provide accurate intra-oral radiographs. Unfortunately, they are not truly reproducible as it is possible to vary the



Fig 3 X-ray film in standardized relationship to tooth



Fig 4 The apparatus assembled for intra-oral use

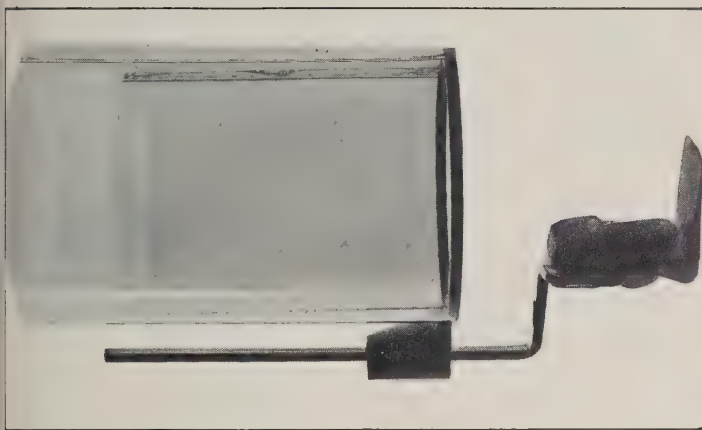


Fig 5 The apparatus in clinical use

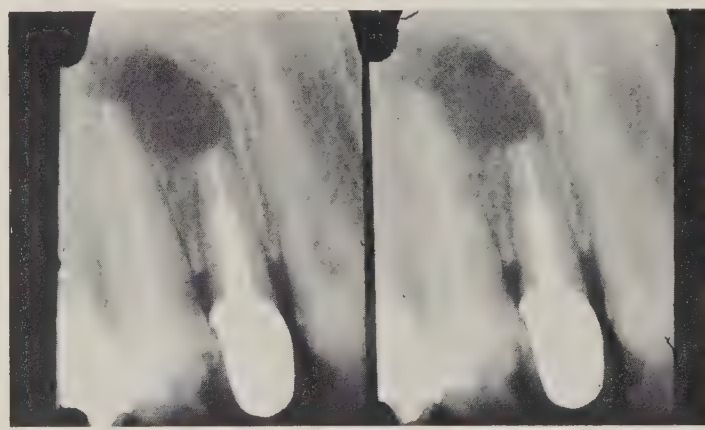


Fig 6 Sequentially reproduced radiographs. These radiographs were taken on the same day

position of the film to the tooth by using a slightly different placement of the film holder. Furthermore the relation of the cone to the guide ring is variable as the two are not fixed as a solid unit.

That error had existed when comparing radiographs is evidenced by methods devised to overcome the problems. Some of these attempted to compensate for different vertical angulations by relating root length or alveolar crest height to a known measurement or grid pattern.⁹⁻¹¹ Other solutions to the problem have centered around ensuring that either the bite block was in a reproducible fixed relation to the teeth or the x-ray cone was in a fixed relation to the film holder.

One of the earlier methods used was for diagnosis of calculus on proximal tooth surfaces.¹² A special bitewing holder was attached by means of a rod to a wire frame into which the conical short cone was fitted. How accurately the cone fitted the frame (without alteration of vertical or horizontal angulation) is uncertain and of course it was not possible to see the apices of the teeth.

A technique for sequentially reproducing intra-oral film¹³ was suggested by Wege but differed

little from the collimated long cone and protective shield previously described.⁴ Although specific bite blocks were used for each patient there was no mechanism for attaching the long cone to the protective shield guide ring and thus true reproducibility was not possible.

This technique was further modified in two papers^{14, 15} attempting to use reproducible radiographs for periodontal diagnosis. Although no precise attachment of cone to guide ring was available, fixed reproducible film placement was assured by covering the plastic bite block, top and bottom, with auto-polymerizing acrylic resin and having the patient bite into the resin until it set. A very high degree of inter- and intra-operator reliability was obtained with this method. In clinical application, hard wax was substituted for the acrylic template but was less successful as the appliance could be tilted slightly by back and forth movements of the mandible, giving rise to the possibility of altering the angle of x-ray projection. A technique utilizing polysulphide impressions has also been described¹⁶ but is presumed to have drawbacks of stability for repeated usage over prolonged periods of time.

This last paper also described a method of attaching the cone to the directing rod, as did a subsequent paper¹⁷ which failed to provide a fixed and reproducible relationship between film holder and tooth.

Materials and method

From the foregoing review it can be seen that a convenient method of securely adapting the long cone to the guide ring would prevent any alteration of horizontal or vertical angulation of the x-ray beam. This simple expedient would ensure truly reproducible radiographs.

To this end, two clear acetate cylinders of 0.005 inch thickness were constructed, one to the internal diameter and one to the external diameter of the guide ring of an extension cone paralleling device (Rinn Corp, Elgin, Illinois) (Fig 1). These cylinders were 3 inches and 1½ inches long and were secured to the guide ring by contact cement. In order to obtain a standardized film to tooth relationship, the film holder of the device was secured to a bite block (Fig 2). The latter was fabricated from autopolymerizing acrylic resin which had been adapted to each patient's dentition previously. The two components of the unit were made detachable by lubricating the film holder prior to its placement in the acrylic. This facilitated storage of the custom-fitted bite blocks. Placement of the film in the holder provided the desired standardized relationship (Fig 3). The lugs of the directing rod were connected to the plastic bite block and the guide ring also connected to the rod in the usual way (Fig 4), adaptation of the cone to the ring being made by placing the cone in the space between the two clear acetate cylinders attached to the ring (Fig 5). Movement of any component of the system was impossible and superimposed radiographs showed exact reproduction in all dimensions (Fig 6).

Summary

The development of standardized intra-oral radiography has been reviewed and a method suggested for the sequential reproduction of intra-oral radiographs. It ensures constant vertical and horizontal angulation of the x-ray beam in relationship to the film, as well as a constant and reproducible relationship between film and tooth. The components are easily fabricated and inexpensive.

This technique can be utilized when assessing the progress of intrabony disease or the results of dental therapy. It is currently being utilized by the

authors to study the radiographic changes in the periodontal ligament of teeth in traumatic occlusion.

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The authors are with the Department of Oral Medicine, Faculty of Dentistry, University of British Columbia, Vancouver 8.

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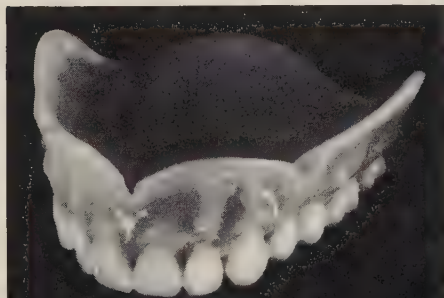


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The role of dental plaque in caries and inflammatory periodontal disease

Israel Kleinberg, DDS, PhD, FRCD(C)
Winnipeg

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This article summarizes the most recent knowledge concerning the composition of bacterial plaques on oral hard and soft tissues, the factors that influence plaque pH and the effects of plaque pH, the biochemical processes involved in plaque acid-base changes, pH changes occurring during plaque formation, the retention and release of calcium and phosphorus from plaque reservoirs, and the relation between plaque pH and enamel decalcification and gingival disease.

Cet article résume les connaissances les plus récentes relatives à la composition des plaques dentaires sur les tissus buccaux durs et mous, aux facteurs qui affectent le pH de la plaque et aux effets du pH de la plaque, ainsi qu'aux processus biochimiques qui se manifestent dans les échanges acide-base de la plaque, aux changements dans le pH survenant durant la formation de la plaque, au dégagement et à la rétention de calcium et de phosphore de la plaque, à la relation entre, d'une part, le pH de la plaque et, d'autre part, la décalcification de l'émail et les maladies gingivales.

Dental caries and inflammatory periodontal disease are the two most prevalent diseases of man and are the chief causes of loss of teeth. Dental caries manifests itself predominantly in the young, while periodontal disease is most prevalent in older individuals (Fig 1).¹ Research during the last few decades has established that dento-gingival plaque, the bacterial deposits which collect on the surfaces of the teeth and gingiva, is the cause of initiation and progression of both disease processes.

Nature of bacterial plaques on oral hard and soft tissues

The plaque found on the human dentition contains a wide variety of cellular elements, including cocci, rods, filaments, leukocytes and desquamated epithelial cells from the oral soft tissues (Fig 2).^{2,3} The cells in mature plaque are present in high concentration and are entrapped in a matrix consisting principally of carbohydrate-protein which is mainly derived from saliva.^{4,5} Under certain circumstances glucans and fructans elaborated by the plaque micro-organisms during sucrose metabolism are also present.⁶

The fluid within the plaque differs in composition from saliva since, in addition to saliva, it is influenced by the gingival crevicular fluid, dietary fluids and the effects of plaque metabolism.⁷ Under normal conditions saliva is available continuously and is responsible for bringing substrate into the plaque and for removing metabolic end

products. Availability of crevicular fluid, however, is dependent upon the presence and severity of gingival inflammation.⁸⁻¹⁰

Dental plaque is found most frequently in those regions of the human dentition not readily accessible to hygiene procedures, typically the minute enamel cracks, pits and fissures, and the contacting surfaces of adjacent teeth. The bacteria in these areas can act as foci for enamel surface colonization¹¹ and for the colonization of carbohydrate-protein deposits on the enamel surface from the saliva.¹² Subsequent bacterial metabolism and growth result not only in a more densely populated plaque but in the presence of sucrose also in the elaboration of extracellular polysaccharides. These may in turn lead to a more tenaciously adhering plaque¹³ and one less subject to saliva entry or acid exit.^{14,15}

The bacterial plaque in gingival crevices and on the marginal gingiva has also been extensively studied, mainly in relation to gingival inflammation and periodontal pocket formation. The plaque that collects on the attached gingiva, however, has received much less attention. This plaque appears to arise by the multiplication of bacteria firmly attached to or embedded in the gingival epithelial cells. Its nutrients are presumably derived partly from saliva and partly from the epithelial cells themselves. At the time of desquamation all that usually remains of the matured epithelial cell are keratinous remnants with masses of attached bacteria (Fig 3). Presumably, disease occurs when the formation of new epithelial cells in the basal layers and the rate of desquamation of the superficial layers are slower than bacterial multiplication and penetration of bacterial products through the gingiva into the underlying tissue.

Since the crevicular epithelium is thin and non-keratinized, the bacterial effects at the dento-gingival interface differ from those on the attached gingiva. In this location the accumulation of plaque soon results in a corresponding increase in the formation of gingival crevicular fluid and gingival inflammation.⁸ With the development of a periodontal pocket, the dento-gingival bacteria which previously depended upon salivary and dietary substrates progressively shift their dependence toward the nutrients obtainable from gingival crevicular fluid.

Effects of plaque acid-base formation

As early as 1890 Miller¹⁶ recognized that there were two fundamental processes involved in the loss of the mineral content of enamel or dentine during the dental caries process. Firstly, fermentable carbohydrate is rapidly converted by the oral

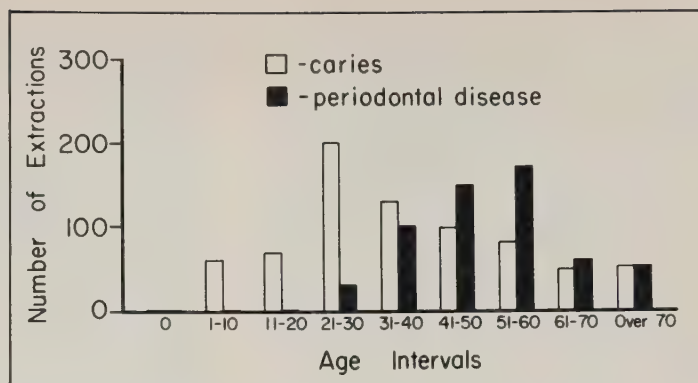


Fig 1 Relation between age and tooth loss due to dental caries and inflammatory periodontal disease.

bacteria to acid; secondly, the acid so formed solubilizes the calcium phosphate of the enamel (or dentine in an established caries lesion, or cementum if the roots of the teeth are exposed) producing the carious lesion.

Exposing the plaque to fermentable carbohydrate results in a sharp drop in the plaque pH since the acid which is rapidly formed by the plaque bacteria diffuses slowly out of the plaque (Fig 4).¹⁷⁻¹⁹ Prolonging the period of exposure by increasing the amount of substrate available prolongs the period of decreased plaque pH (Fig 4). In a like manner, urea raises the plaque pH,^{20,21} and increasing the availability of urea to the plaque bacteria in turn prolongs the duration of the pH rise (Fig 4).

Saliva in the absence of fermentable carbohydrate favours an elevated plaque pH; this seems to be due to salivary urea since urea is the only nitrogenous substrate in saliva that appears capable of producing base fast enough to offset the pH buffering by the saliva.^{18,21} An alkaline pH favours both the deposition of calcium and phosphate from saliva and their retention within the plaque. A high pH favours the transformation of plaque calcium phosphate into clinical calculus and may facilitate gingival destruction.

Biochemical processes in plaque acid-base changes

Present evidence indicates that acid and base formation from fermentable carbohydrate and urea, respectively, occur via the metabolic pathways outlined in Figure 5.^{19,22} The major acids formed from carbohydrate are lactic, acetic and propionic; small amounts of other acids such as butyric, isobutyric and valeric acids have been identified.^{23,24} Lactic acid is an intermediate substrate since it is only formed while fermentable substrate is available and utilized and converted to acetic acid and carbon dioxide when other substrates are absent. Ammonia is the base formed from urea.

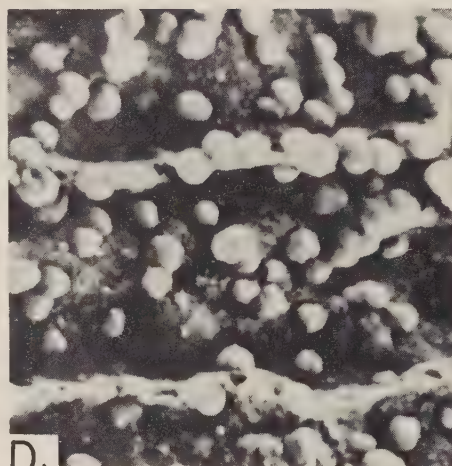
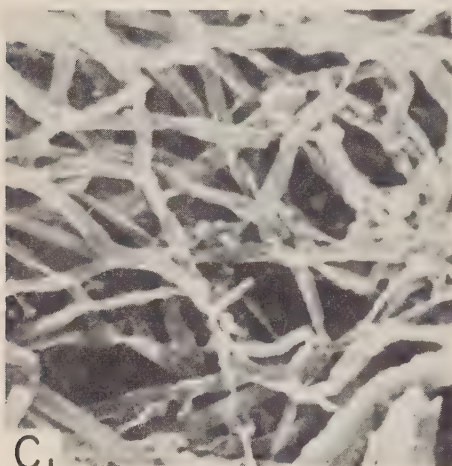
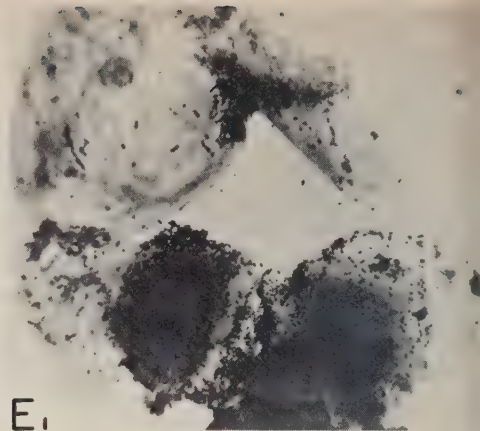
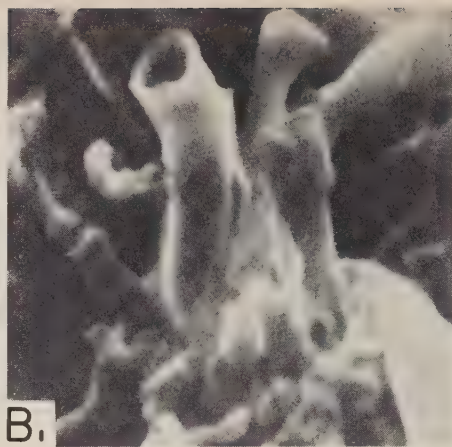
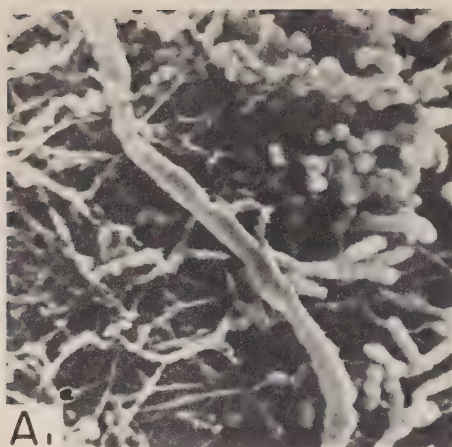


Fig 2 Morphology of dental plaque. A, B, C, D, scanning electron micrographs showing bacteria in plaque on the enamel walls of carious cavities. A, various rod-shaped or bacillary forms arranged in chains. x 2,900. B, hollow smooth surfaced filamentous bacteria. x 2,900. C, interwoven filamentous organisms. x 3,000. D, coccal bacterial forms on a carious enamel surface. x 3,000. E, light microscopic photograph showing epithelial cells with attached bacteria. (A-D from Boyde, A. and Lester, K.S. *Arch Oral Biol* 13:1413, 1968. E from Nolte, W.A., ed. *Oral microbiology*. Ed 2. St. Louis, Mosby, 1973.)

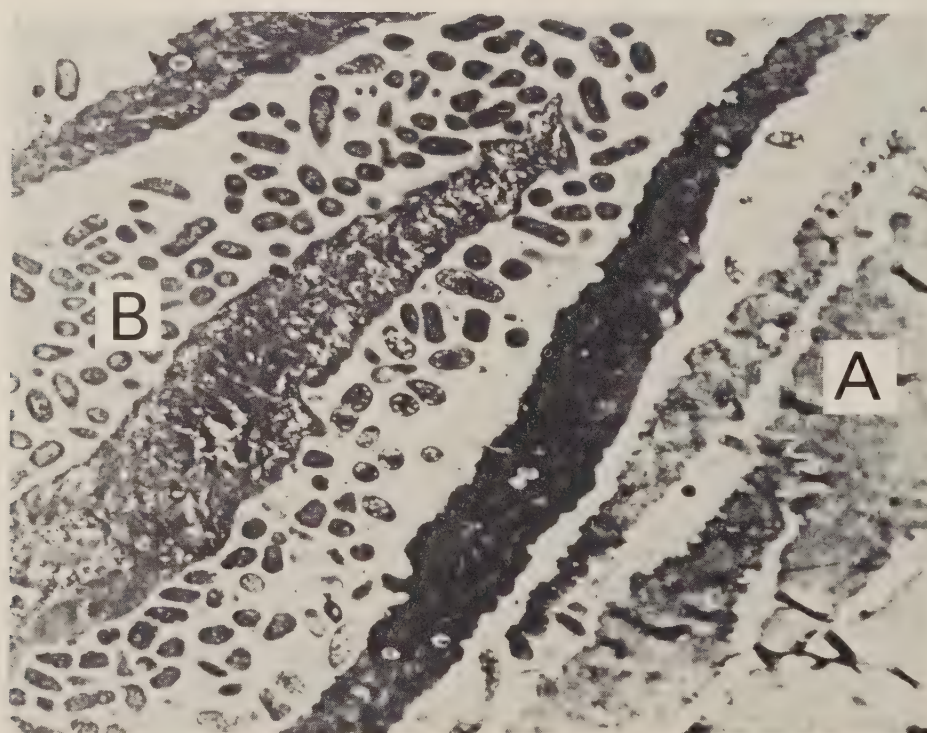


Fig 3 Transmission electron micrograph of (a) epithelial cell remnants and (b) bacterial forms on human attached gingiva. (Courtesy of R. LaFleche.)

Sucrose, the main sugar of human diets, behaves differently at low and at high concentration. At low concentration, sucrose is rapidly hydrolyzed by oral bacteria, yielding glucose and fructose; at high concentration, sucrose forms extracellular glucans and fructans in addition to glucose and fructose (Fig 5). Recent studies have shown that the degradation of the extracellular polysaccharide is hampered if sucrose is present and suggest that the degradation is inhibited by the glucose and fructose produced from the sucrose during its hydrolysis.²⁵ Once the sucrose is removed by bacterial metabolism or salivary clearance from the mouth, the inhibition of extracellular glucan and fructan degradation is relieved. Glucose and fructose are still formed but arise now from these polymers rather than from sucrose (Fig 5).

The fate of glucose and fructose appear to be the same: acid, carbon dioxide and intracellular polyglucose is probably of the glycogenamylopectin type and acts as a reserve substrate to amylopectin type and acts as a reserve substrate to be degraded once extracellular glucose and fructose are no longer available.²⁷ Because of their involvement in the regulation of intra- and extracellular polysaccharide degradation, one would expect glucose and fructose levels also to synchronize intra- and extracellular polysaccharide degradation.

The return of the pH to neutrality occurs in two ways. Firstly, saliva facilitates the diffusion of the acidic or basic end products out of the plaque. Secondly, the plaque produces basic substances at low pH and acidic substances at high pH by the respective decarboxylation and deamination of amino acids (Fig 6).²⁸ At acidic pH, the decarboxylation of amino acids yields carbon dioxide and amines; since carbon dioxide is such a weak acid, formation of amines favours a pH rise. At alkaline pH, amino acids are deaminated and ammonia and keto acids are formed; since ammonia is a weaker base than the keto acid is an acid, the pH falls. When the pH is near neutrality, the catabolism of amino acids may be more oxidative and result in substances less acidic or basic than those formed at high or low pH.

The proteins hydrolyzed most readily by plaque proteases to provide the amino acids involved in this acid-base homeostasis appear to be from saliva.¹⁹ Further, the protein hydrolysis and the preferred utilization of the various amino acids appear to be pH dependent.^{19,29}

Diet and saliva as gross regulators of plaque acid-base formation

The fermentable carbohydrate of human diets, usually available intermittently, and the urea in

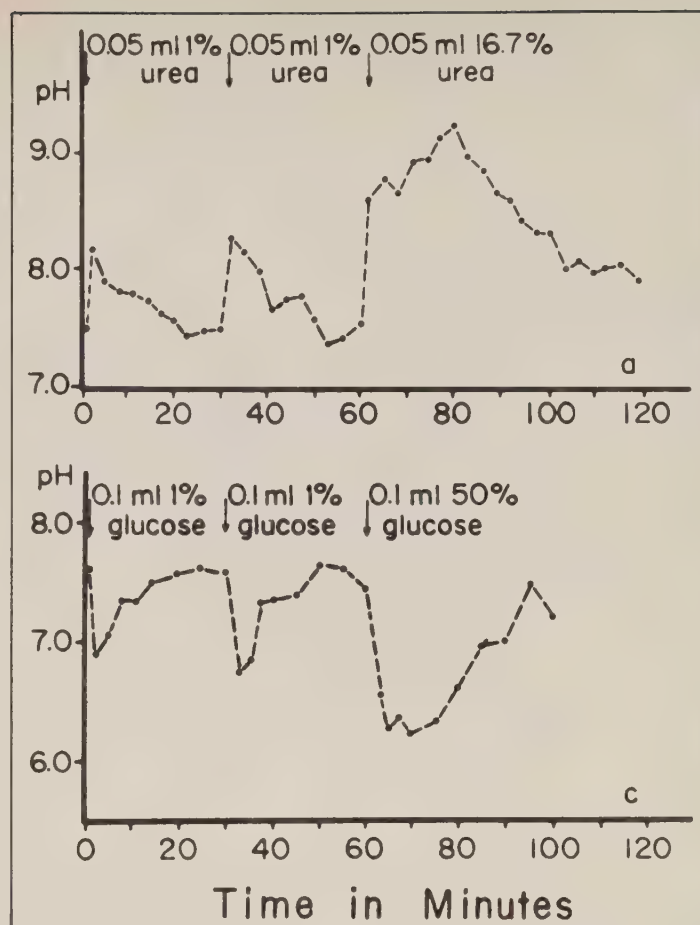


Fig 4 Effect of different amounts of urea and glucose on the pH of dental plaque *in situ*. An increased response occurs when the concentration or duration of substrate is increased. (From Kleinberg, I. *Int Dent J* 20:451, 1970.)

saliva, which is available on a more or less continuous basis, are the gross regulators of the acid-base changes of the dental plaque.²¹ The diet favours acid formation since dietary lipid and protein are degraded very slowly and any contribution they might make to the rapid acid changes seen with fermentable carbohydrate would be insignificant. Saliva, because of its urea content, favours plaque base formation. It provides some carbohydrate (as part of salivary mucoprotein) which is easily degraded,^{29,30} but the amounts of acid generated are small relative to the base that can be formed from salivary urea.

Dentition morphology has a major influence on the availability of dietary carbohydrate, whereas the locations and amounts of saliva secreted from the major salivary glands have a major influence on saliva availability. Since saliva favours base formation and diet favours acid formation, the relative availabilities of fermentable carbohydrate and saliva lead to certain pH and bacterial flora patterns in plaques located in different regions of the human dentition (Fig 7).^{21,31}

Altering the relative availability of substrates, as in tube feeding or severe restriction of the carbo-

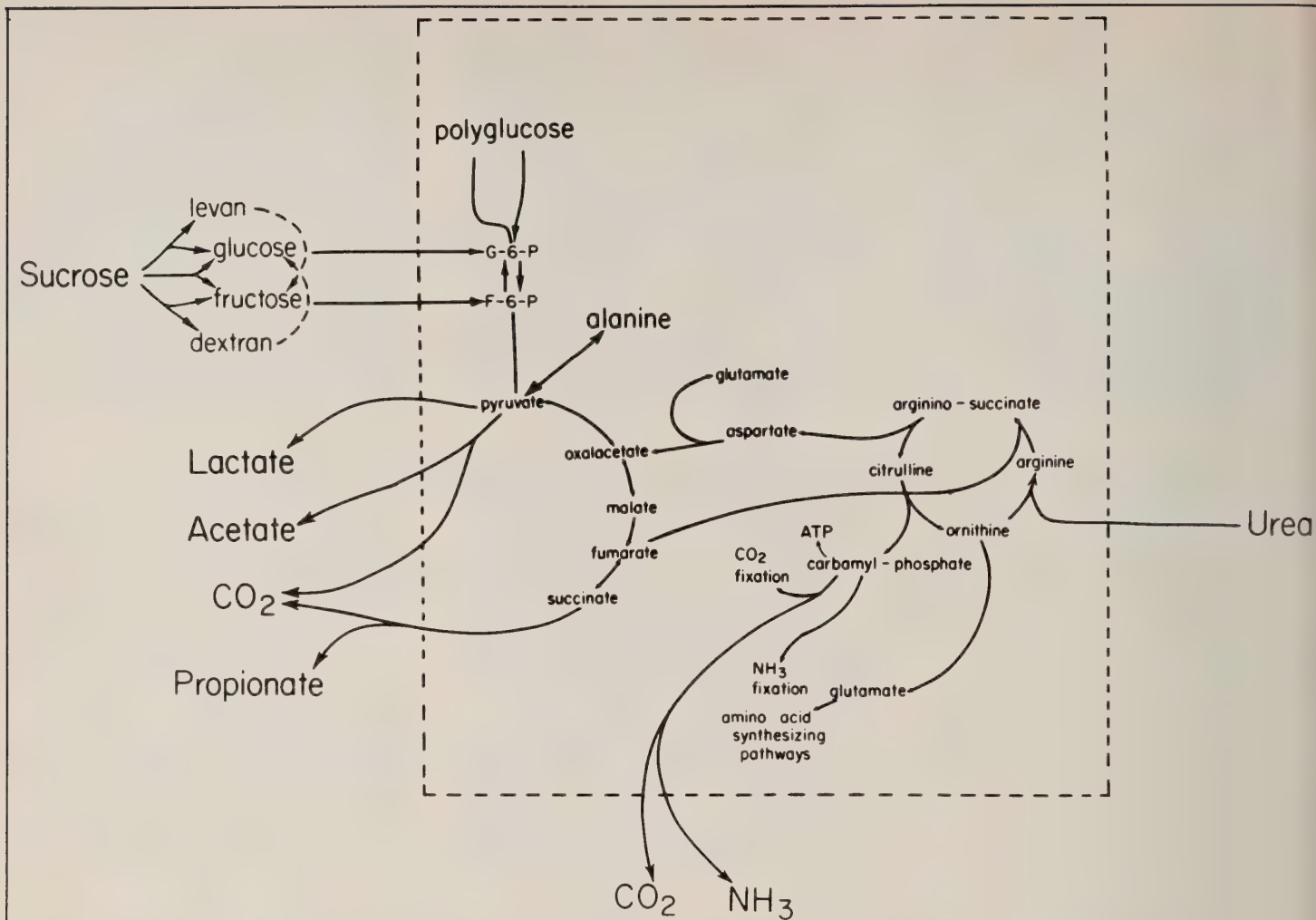


Fig 5 Metabolic pathways utilized during sucrose and urea degradation by the mixed bacterial flora of salivary sediment and dental plaque. At low substrate concentration, the metabolism of sucrose and an equimolar mixture of glucose and fructose are about the same. At high substrate concentration, they differ since extra-cellular polysaccharides are formed from the excess sucrose but not from free glucose and fructose. (Adapted from Kleinberg, I. Int Dent J 20:451, 1970.)

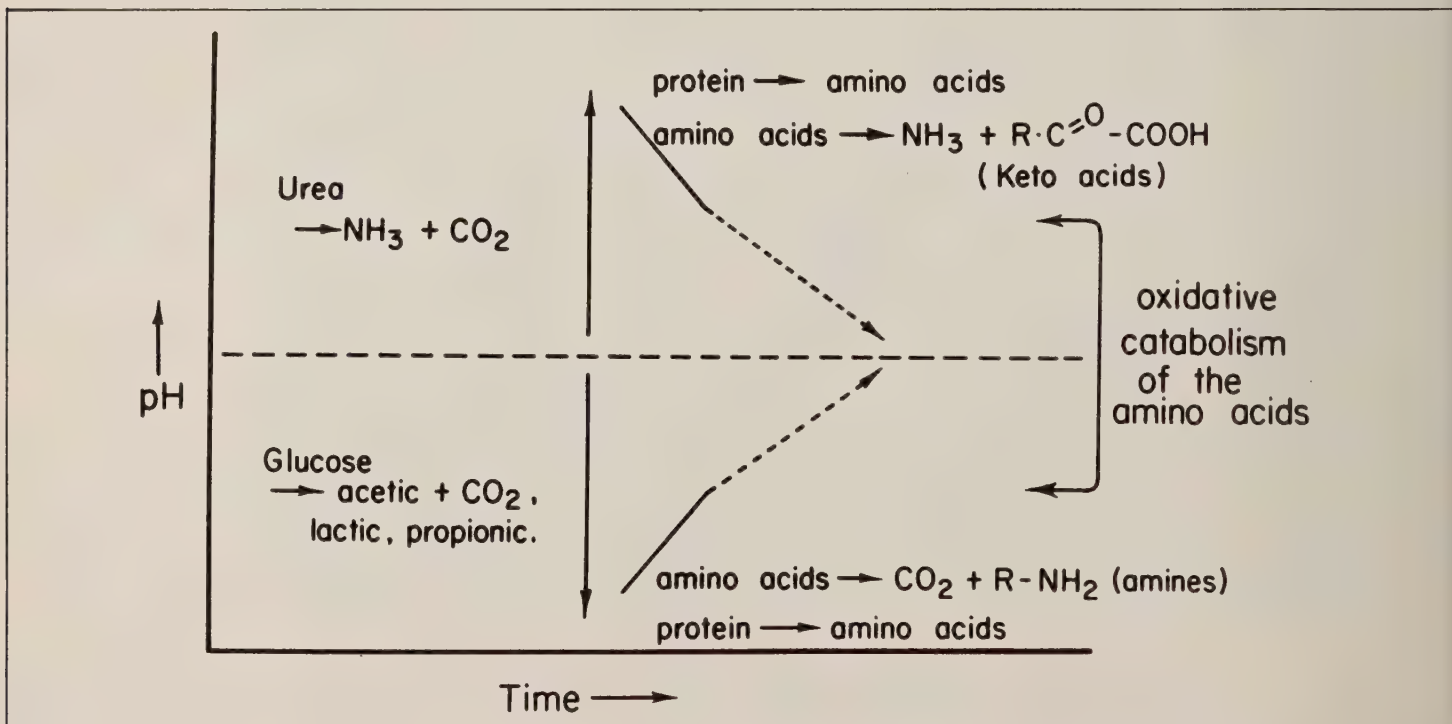


Fig 6 The major acid-base processes (acid-base function) of the mixed microbial flora of salivary sediment and dental plaque. (Adapted from Kleinberg, I. Int Dent J 20:451, 1970.)

hydrate content of the diet, not only results in a sharply reduced pH fall³² (Fig 8) but also diminishes the acidogenic component of the flora.³³ The opposite is true of those regions where saliva access is poor and carbohydrate retention is high. For example, the approximal surfaces of the teeth, where retention of fermentable carbohydrate is prone to be high and access to saliva poor, are locations showing low pH levels.³⁴ Further, cavities having different size openings and therefore different degrees of salivary access show lower pH levels where openings are narrow (b in Fig 9).³⁵ When such cavities enlarge, for example by the breaking off of a cusp (a in Fig 9), the saliva gains greater access and the cavity pH becomes more basic.³⁵ In some cases this may lead to caries arrest. When orthodontic bands are placed, not only do shifts in plaque pH, microbial composition and levels of carbohydrate take place (Fig 10)^{36,37} but also plaque calcium and phosphate levels decrease.³⁸

Below the free margin of the gingiva, the pH of the crevice is about 0.6 pH units higher than that of enamel plaque.³⁹ This can be attributed to poor availability of dietary carbohydrate to the gingival bacteria as well as high levels of urea obtainable from crevicular fluid.¹⁰ The fact that the pH is higher in this region of the dentition than it is above the free margin would explain why the tooth below the free margin of the gingiva is not a site where caries originates.

Acid-base changes in plaque formation

Electron microscopy has shown that the fine enamel scratches seen after a prophylaxis are covered by an acellular pellicle-like material within 20 minutes.⁴⁰ Deposits with small globules can be identified after one hour (Fig 11).¹⁴

Early plaque contains high levels of calcium and phosphate which decrease as the plaque ages (Fig 12).¹² The formation of deposits high in calcium and phosphate during early plaque formation is believed to occur as follows. Saliva from the major salivary glands enters the oral cavity and immediately loses carbon dioxide; this, in turn, causes the pH of the saliva to rise.⁴¹ The increased pH then favours the formation and precipitation of a carbohydrate-protein aggregate, which, in the case of saliva from the submandibular glands is particularly rich in calcium and phosphate. Recent evidence indicates that a configurational change takes place in the carbohydrate-protein complex which exposes calcium sites and favours its deposition.¹² Since the carbon dioxide loss and associated rise in pH are much larger in stimulated than in resting saliva, it is likely that such calcium

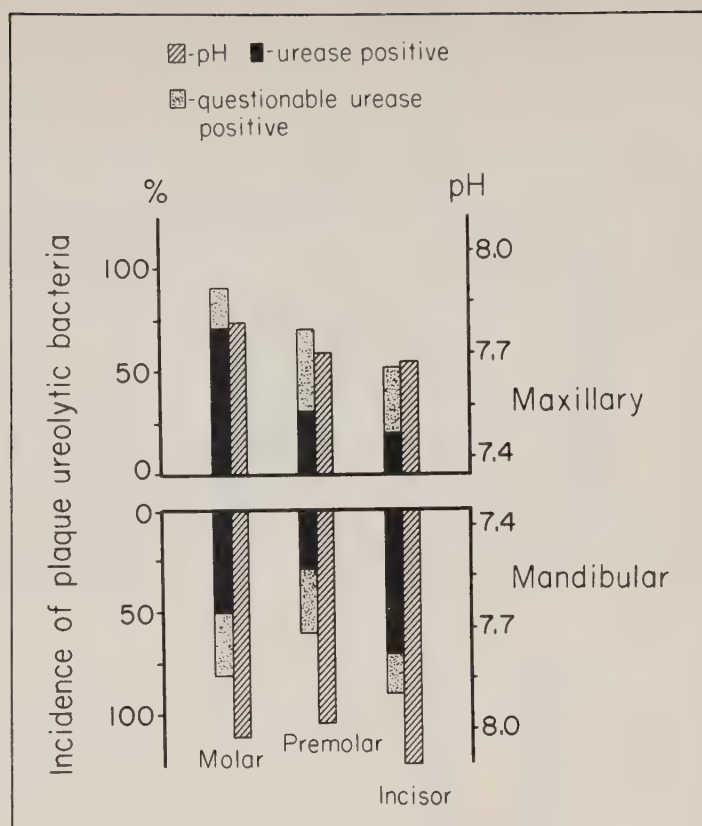


Fig 7 Relation between the pH of plaques located in different regions of the human dentition and the incidence of ureolytic bacteria

phosphate rich deposits form most readily during eating.

Aggregation of the bacteria found in the mouth takes place by neutralization of their surface charge (Fig 13). Even at the most acidic pH reached in the oral cavity the bacterial surfaces are still sufficiently negatively charged to prevent other than slight auto-aggregation.⁴² However, if calcium is present, aggregation takes place more readily at alkaline pH since the calcium provides a link between the negatively charged bacteria or between the same bacteria and the negatively charged salivary mucoprotein molecules.⁵ Thus, during eating, when many bacteria are dislodged, the high pH will favour not only deposits high in calcium phosphate but also deposits with many entrapped bacteria.⁴⁰

As the plaque develops, the saliva coming in contact with its surface would be subjected to lower pH conditions than the saliva that contacts the tooth surface devoid of plaque. In vitro experiments suggest that the lower pH will favour deposition of carbohydrate-protein with a lower calcium phosphate content,¹² which would account at least in part for the fall in plaque calcium phosphate that occurs as the plaque ages.

As the plaque ages, brushite, apatite or both appear (Fig 14); this increase in crystallinity occurs

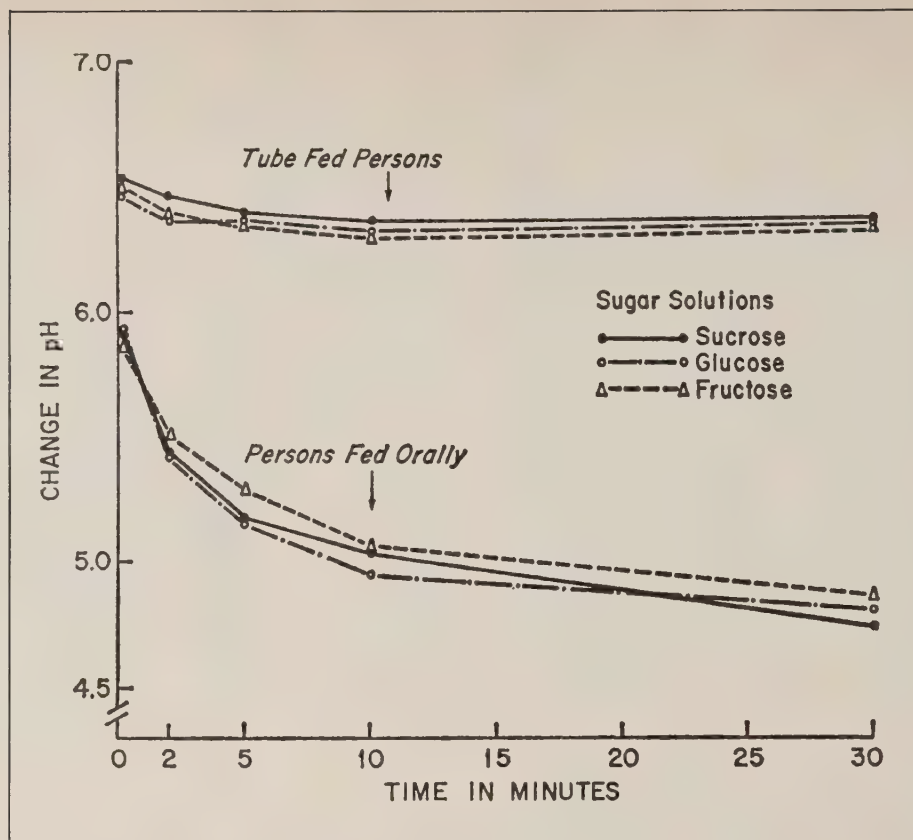


Fig 8 Decrease in plaque pH following rinsing with glucose, fructose or sucrose solution in subjects fed normally and by tube. (From Littleton, N.W. et al. Arch Oral Biol 12:601, 1967.)

sooner in plaques of adults (where calcium and phosphate levels are higher) than in those of adolescents (where levels are lower) and in plaques of those regions of the dentition where the pH is more alkaline.⁴³ In other words, plaques with higher calcium and phosphate levels and a higher pH become crystalline sooner.

The microbial composition also changes as the plaque ages (Fig 15).⁴⁴ The initial flora contains more aerobic micro-organisms, whereas the mature flora contains aerobic micro-organisms on the plaque surface and anaerobic micro-organisms in the interior. Whether or not acid-base changes play any part in this pattern of development is not known.

Retention and release of calcium and phosphate from plaque reservoirs

Freshly precipitated calcium phosphate is easily solubilized as long as it remains in an amorphous or poorly crystalline state.⁴⁵ Its solubilization rather than that of the enamel would occur should the plaque become acidic following the ingestion of dietary carbohydrate. However, once it becomes crystalline, and therefore less soluble, the plaque calcium phosphate is less protective.

Fluoride or a high pH favour transformation of the calcium phosphate to a more crystalline, less soluble form. Organic phosphates, on the other hand, may prevent such transformation at least until removed by phosphatase hydrolysis.

Effects of acid on the enamel

In the absence of plaque, the pH of the tooth surface is influenced by the pH of either the resting saliva or the stimulated saliva during eating. In either case, the pH is sufficiently high so that the calcium and phosphate ions of the saliva can adequately protect the enamel from dissolution (Fig 16).^{30,46} However, as the plaque forms, the tooth surface is influenced more and more by what happens in the plaque and less and less by the saliva.

In the presence of fermentable carbohydrate, the pH of the dental plaque falls and a critical pH may be reached below which the plaque fluid is unsaturated with respect to hydroxyapatite, the major calcium phosphate salt of the enamel.⁴⁷ As a result, enamel dissolution takes place, particularly in the intra-prismatic regions (Fig 17),² and micro-cavities appear which provide regions for

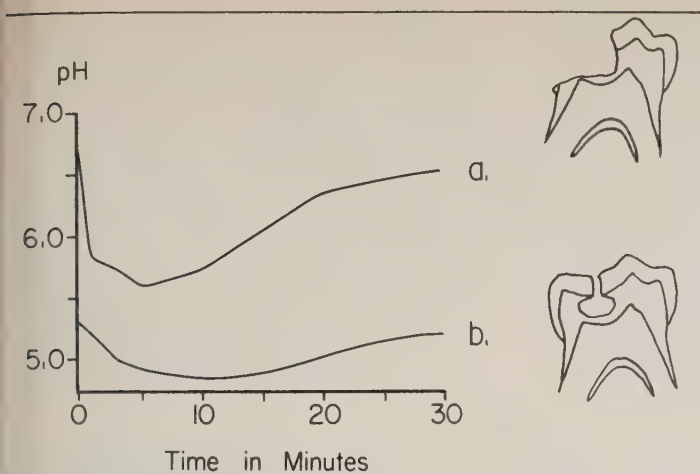


Fig 9 Relation between the decrease in pH following carbohydrate exposure and access of a cavity to the oral fluids: (a) exposed cavity — higher plaque pH; (b) less accessible cavity — lower plaque pH. (Adapted from Dirksen, T.R. et al. Arch Oral Biol 7:49, 1962.)

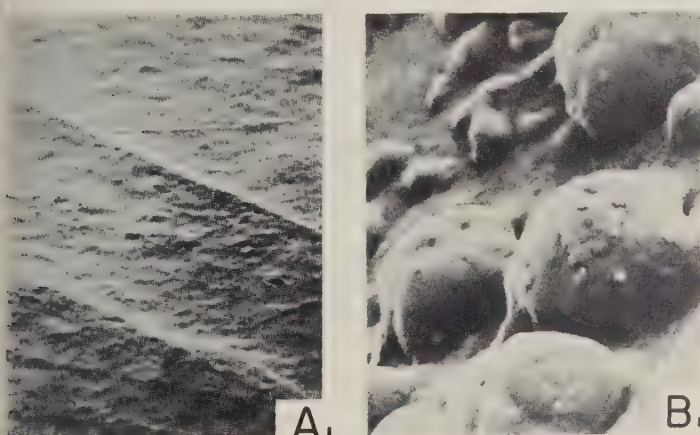


Fig 11 Formation of dental plaque on a freshly cleaned enamel surface. Scanning electron micrograph of an enamel surface (A) after prophylaxis with rubber cup and pumice, and (B) after one hour. (From Critchley, P. and Saxton, C.A. Int Dent J 20:408, 1970.)

bacterial colonization and salivary or bacterial protein impregnation. One would expect an acidic pH also to cause a rise in plaque fluid calcium and phosphate levels. This by mass action would protect the enamel against acid demineralization and upon subsequent pH elevation provide the ions necessary for remineralization of decalcified areas of the enamel. Where the plaque acid attack is weak, dissolution of the enamel will be superficial and proceed in a slow but progressive manner. On the other hand, in areas of severe plaque acid attack, the higher levels of acid will result in more extensive solubilization of calcium and phosphate and deeper penetration well below the surface of the enamel. As the attack subsides, however, calcium and phosphate re-deposition may take place in the outer regions of the enamel⁴⁸ and produce irregular calcium phosphate areas or white spots. The calcium and phosphate so deposited may arise from the deeper layers of the enamel, from saliva

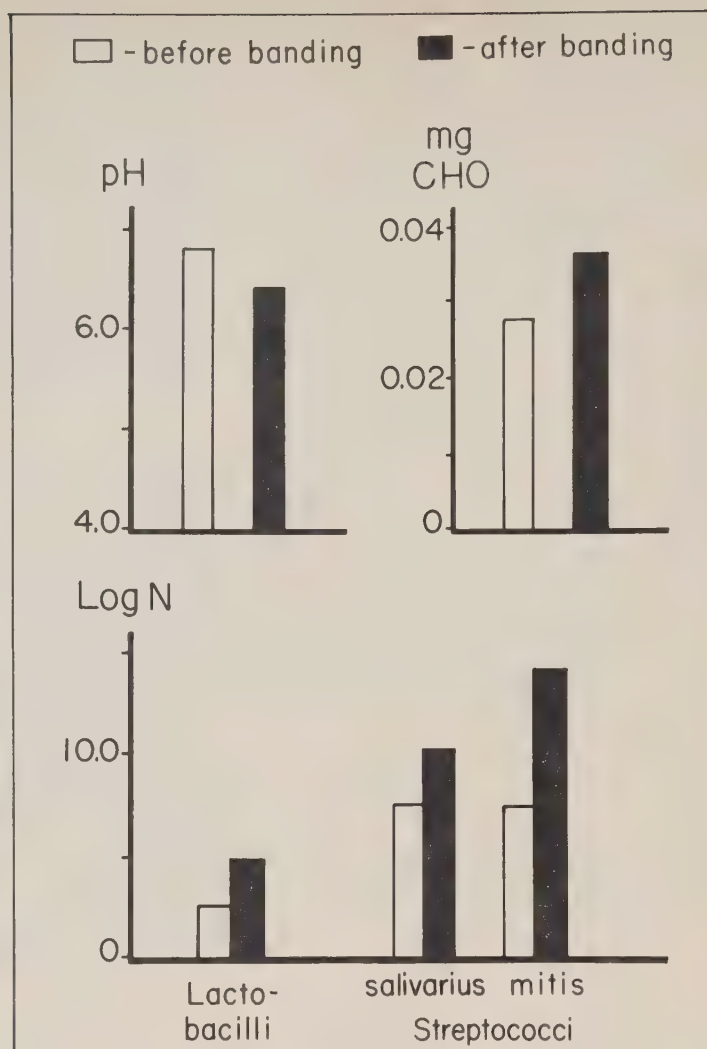


Fig 10 Effect of orthodontic banding on the pH of dental plaque and on plaque carbohydrate and microbial composition. (From Nolte, W.A., ed. Oral microbiology. Ed 2. St. Louis, Mosby, 1973.)

or from solubilized plaque calcium phosphate deposits.

Relation between base formation and gingival disease

As plaque collects on the gingiva it causes an inflammatory response which generally becomes more severe as the plaque thickens. In regions of the dentition where the pH of the supragingival plaque is more alkaline, progressive destruction of the periodontal tissues is manifested by periodontal pockets of increasing depth (Fig 18).³⁹ High levels of ammonia are associated with a high plaque pH;⁴⁹ it is not known whether ammonia *per se* or a high pH favouring the activity of certain destructive enzymes such as proteases is more important or for that matter responsible for the initiation of gingival tissue destruction.

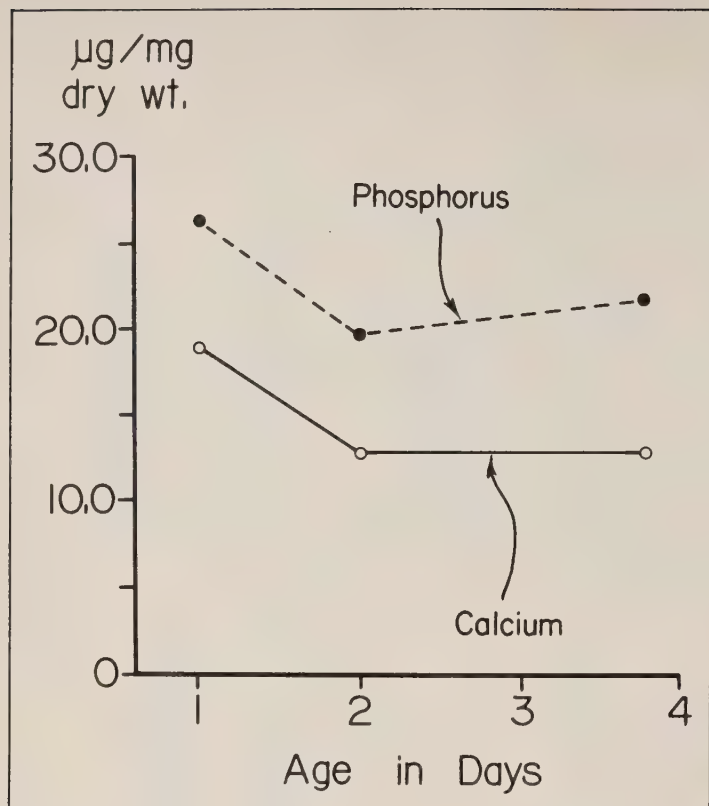


Fig 12 Changes in plaque calcium and phosphorus levels during plaque formation. (Adapted from Kleinberg, I. et al. J Periodont 42:497, 1971.)

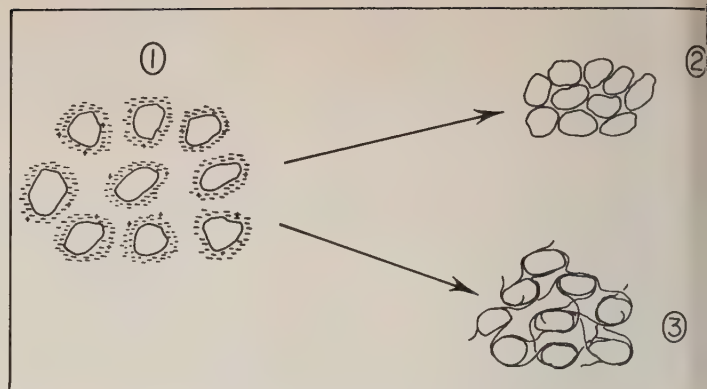


Fig 13 Aggregation of oral bacteria in the absence and in the presence of macromolecules like salivary mucoprotein: (1) negatively charged bacteria suspended because of repulsion; (2) aggregate of low porosity after neutralization of surface charge by H^+ or Ca^{++} ions; (3) floc-type of aggregate permits easier movement of substrates into and end-products out of the plaque. Calcium provides link between negatively charged bacteria and mucoprotein molecules.

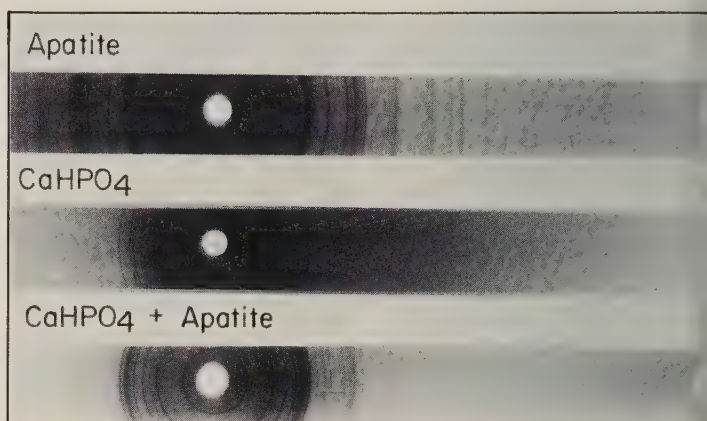


Fig 14 X-ray diffractograms showing types of calcium phosphates present in some dental plaques during plaque formation. (From Kaufman, H.W. and Kleinberg, I. Calc Tissue Res. In press.)

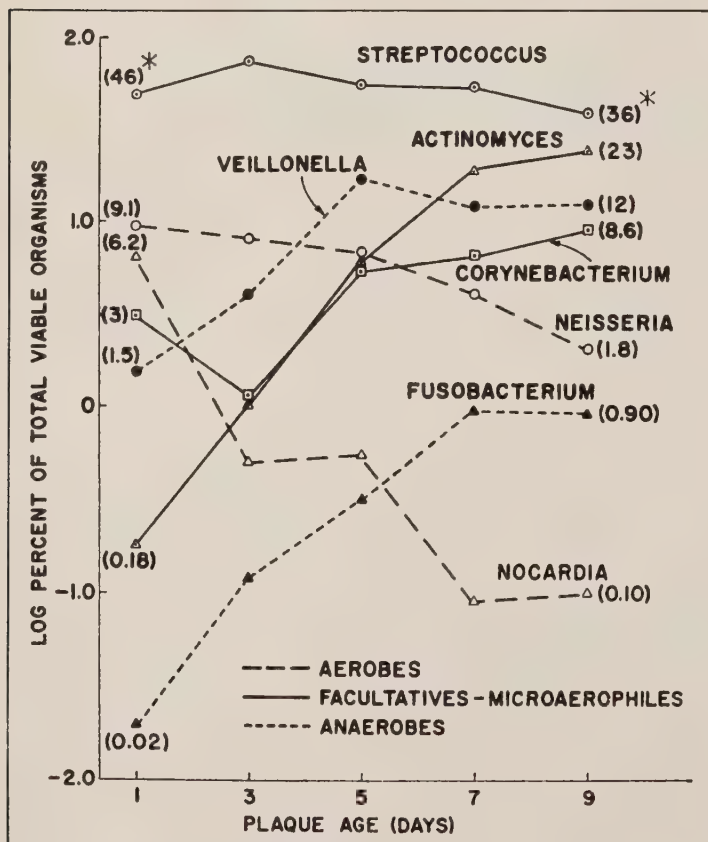


Fig 15 Changes in microbial composition of the forming dental plaque. Aerobic micro-organisms predominate in early plaque, whereas anaerobic micro-organisms predominate in mature plaque. (From Ritz, H.L. Arch Oral Biol 12:1561, 1967.)

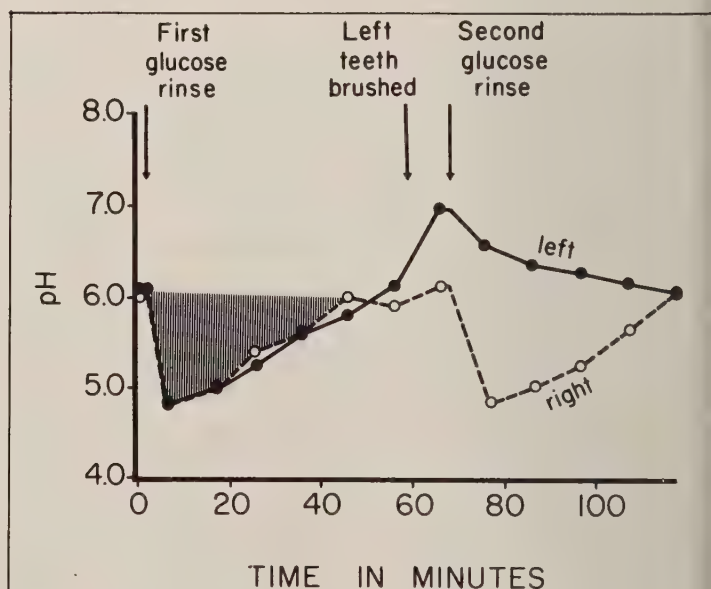


Fig 16 Effect of plaque removal on the pH of the tooth surface after rinsing with 10 per cent sucrose solution. (From Kleinberg, I. J Dent Res 49:1300, 1970.)

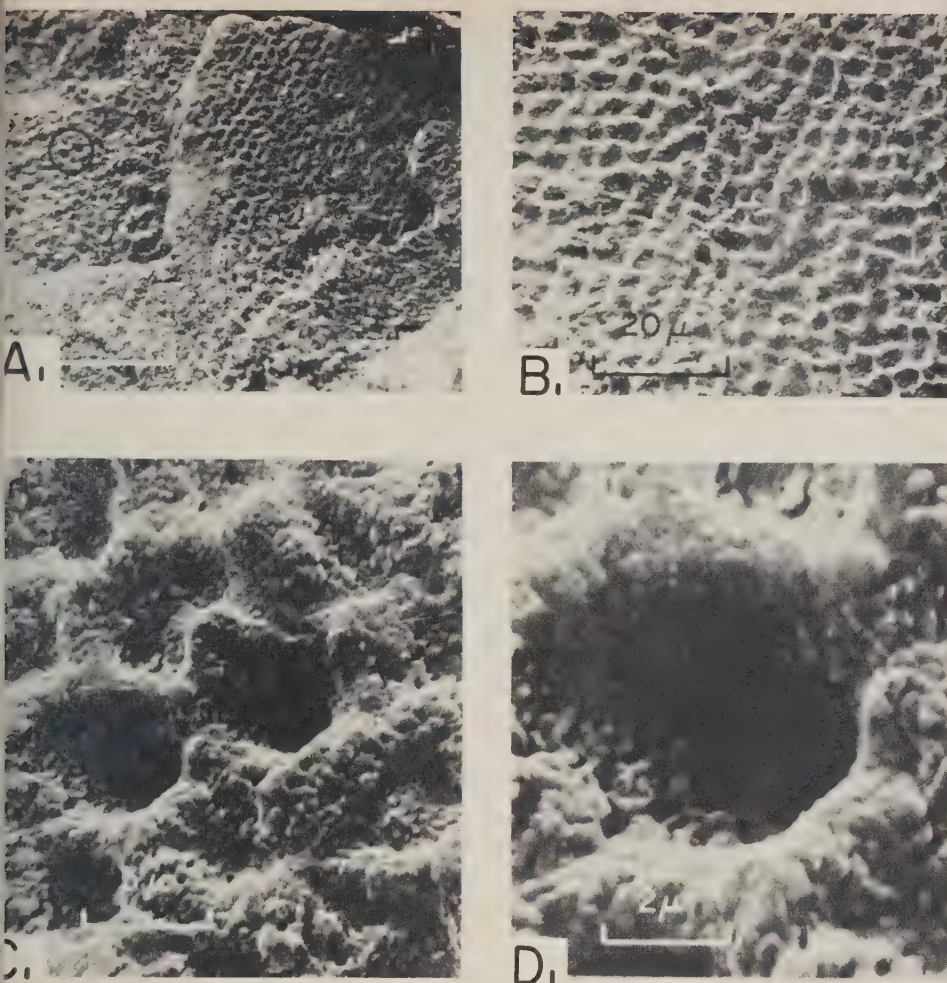
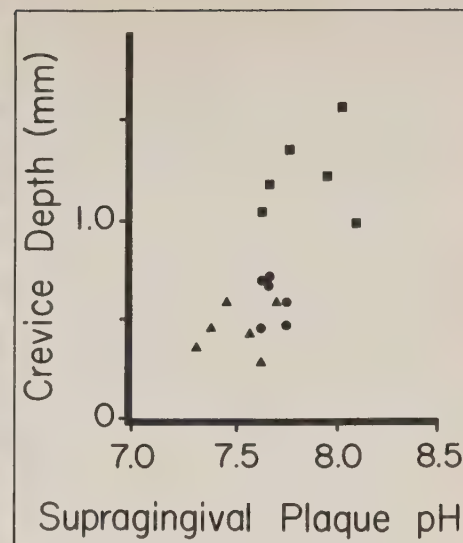


Fig 17 Scanning electron micrographs of the surface of enamel during early stages of demineralization. A,B,C and D show progressive magnification of a demineralized region. (from Poole, D.F.G. and Silverstone, L.M. Arch Oral Biol 14:1323, 1969.)

Conclusion

The recent research on the biology of dental plaque has considerably increased our knowledge of its bacterial and chemical composition, metabolism, mechanism of formation and its role in the initiation and progression of dental caries and inflammatory periodontal disease. The new knowledge has established the importance of plaque control, identified and initiated new and more rational approaches to prevention and permitted more critical evaluation of existing and proposed forms of treatment. Much still remains unclear; however, the research momentum already generated promises treatment based upon the prevention and control rather than repair of the plaque disease processes and empirical attempts to treat the effects of the disease.

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Reviews/Analyse

Annotations

The Terminal Patient: Oral Care.

Published by The Foundation of Thanatology. Distributed by Columbia University Press

"The need for care efforts in treating the oral complications of the terminal patient highlights dramatically the need to train all professionals in accepting a role in the life of these patients," state the editors of this book. In it experts treat, from psycho-social as well as pragmatic points of view, a wide range of problems involving the oral care of the terminal patient. The need for new approaches to the oral care of the dying, and innovative methods of dealing with the grieving and bereaved family are stressed.

Resulting from a symposium sponsored by The Foundation of Thanatology and the School of Dental and Oral Surgery of Columbia University, this book is edited by three members of the Columbia faculty. Dr. Austin H. Kutscher is associate professor and director, New York State Psychiatric Institute Dental Service, School of Dental and Oral Surgery, and President of The Foundation of Thanatology.

Dr. Bernard Schoenberg is associate clinical professor, Department of Psychiatry, and associate dean and director of Allied Health Sciences, College of Physicians and Surgeons. Dr. Arthur C. Carr is professor of medial psychology, Department of Psychiatry, College of Physicians and Surgeons.

Book Reviews

Applied Psychology in Dentistry

W. R. Cinotti, A. Grieder and H. K. Springob. St. Louis, The C.V. Mosby Company, 1972. 274 p. Illus. \$15.75

This second edition is written, principally by busy private practitioners who carry heavy teaching loads as part-time faculty members. The reader benefits from the best of both worlds, the academic who also has wide experience.

Dentistry has passed through stages of evolution similar to man — the tooth, its development, its removal or restoration, then its relationship with other oral structures and the whole body, and then human biology.

Interest in dentistry has been spreading beyond man as a biological machine to the functioning of man's mind. However, it has been a slow process. Much greater emphasis must be

placed today on the teaching of behavioural sciences in the education of the dentist.

This edition, like the first, fills an important need. It has been expanded by approximately 50 pages. The third part is entirely new, containing contributed chapters dealing with the psychological aspects of paedodontics, periodontics, orthodontics, fixed and removable prosthodontics, TMJ and neuromuscular dysfunction, as well as dental auxiliary utilization. The appendices on relaxation and memory development can be a great help to the dental student and dentist.

The first two parts have been expanded and updated but are similar to those portions of the first edition that covered patient management, office set-up and procedures, case presentation and patient motivation.

The first edition presented the theoretical viewpoint of the Freudian psychoanalytic school, while this edition includes other behavioural theories such as those of A. Adler, C. Jung, K. Horney, H. Sullivan and Carl Rodgers. This book is an excellent guide for student and dentist as an introductory psychology course.

The undergraduate is continually told to learn how to treat the whole patient, not just the tooth, cavity, supporting structures, etc. This book tells how to do so. It is a storehouse of hundreds of ideas that can be used daily in practice.

D. S. Moore

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*Dr. J. Philip Sapp,
Division of Oral Pathology,
Faculties of Dentistry and Medicine,
University of Western Ontario,
London, Ontario. N6A 3K7*

ADVERTISERS' INDEX

	Page(s)
Ash Temple Ltd	14, 69
Astra Pharmaceuticals (Canada) Ltd	OBC
Block Drug Company (Canada) Ltd	IBC, 18
Coe Laboratories, Inc	55
Cook-Waite Laboratories, Inc	42-43
Denco	29
Dentsply International	6,22,32
Charles E. Frosst & Co	IFC
Inter-Unitek Canada Ltd	16
B.L. Marks Sales Co Ltd	10
Mo-dent Ltd	28
J. Morita Corp	20
The C.V. Mosby Co	11
Proctor & Gamble	5
Standard Life Assurance Co	12
The Upjohn Company of Canada	8-9
Weil Dental Supplies Ltd	49
Whaledent Inc	50
S.S. White (Dental) International Div	40
Williams Gold Refining Co (Canada) Ltd	44

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TORONTO
OCT. 6 - 9. 1974



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The registration fee for dentists is \$50.00. Dentists' wives may register without charge, as may exhibitors. Make your cheque payable to CDA National Conventions.

REGISTRATION



**CDA
ADC**

**CONGRES NATIONAL
CONVENTION**
TORONTO
Du 6 au 9 oct., 1974



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE

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Le prix d'inscription pour les dentistes est de \$50.00. Inscription gratuite pour les femmes des dentistes et les exposants. Rédigez votre chèque à l'ordre du Congrès National de l'ADC.

TASK FORCE AGREES ON NEED FOR STRONG, NATIONAL VOICE

The first, full day meeting of the Task Force on the Future of the Canadian Dental Association was held, January 9 in Toronto with all delegates and a number of advisers present. Corporate appointees are: Douglas McDougall, B.C.; J.E.L. Mathieson, Alberta; Elgin T. Duke, Saskatchewan; Alvin Shinoff, Manitoba; Warren Heaslip, Ontario; Vincent Dontigny, Quebec; Gerald G. Orser, New Brunswick; Gerald Barrett, P.E.I.; Charles Oler, N.S.; and William Dwyer, Newfoundland. The advisers present were: A.J. Harris, Ontario; M. Trepanier, Quebec and K. Walsh, Newfoundland.

Chairman, Dr. John B. Macdonald opened by noting that some of the problems facing CDA are shared by a number of self-governing professions confronted with new legislation prohibiting the use of license fees for the support of "voluntary" professional associations. However, other crucial issues are internal and provide evidence of the need for reforms.

Task Force members agreed unanimously that there is a continuing need for a strong, national voice for Canadian dentists. Beyond this one assumption, however, members were urged to approach their task without prejudice and to seek only those solutions which will best serve the profession across Canada.

Issues identified during the day included:

1. Apparent lack of definition of national concerns as distinct from provincial concerns. Hence, there is no logical division of responsibilities between CDA and Corporate Members.
2. Less than satisfactory arrangements for participation by individual members in decisions about the Association.
3. Lack of satisfactory procedures for determining priorities.
4. Evidence of duplication of effort on part of CDA and Corporate Members.
5. Lack of power by the Association to determine its own income.
6. Future heavy dependence on voluntary membership.

To address these and other problems, the Task Force decided on a work schedule, aimed at presenting its recommendations to the Annual Meeting, October 1974. The work will proceed through the appointment of committees to carry out certain steps including:

- . development and analysis of alternative organizational models.
- . examination and analysis of Association expenditures in relation to its goals and programs, with special reference to priorities and benefits.
- . an analysis of possible sources of income and alternative methods of providing and supporting the services of the Association.
- . development of methods for setting priorities.
- . a survey of all members of the Association.

Two special committees were struck. One, to consider financial matters, is comprised of Doctors Heaslip, Mathieson, Dontigny, Oler and Macdonald. The other is a committee to plan the details of the membership survey and includes: Doctors McDougall, Duke, Barrett and Macdonald.



CDA APPOINTS LIBRARIAN

Adrian L. Emerson

Dr. W.G. McIntosh, Executive Director of the Canadian Dental Association, is pleased to announce the appointment of Adrian L. Emerson, as Librarian of the Sydney W. Bradley Memorial Library, in the headquarters building, Toronto. She replaces Miss Colette Gagnon, who retired December 1, 1973.

Miss Emerson was born in the United States and came to Canada in 1969. She completed the Library Arts course at Ryerson Polytechnical Institute in Toronto and joined the Etobicoke Library System, in Etobicoke, Ontario. She was employed there for two years.

A new catalogue of library holdings is now available to members on request. Telephone and mail orders are being handled, with particular emphasis on the popular "borrow-by-mail plan", offered to members practising away from an urban centre.

COMPETITION FOR DENTAL HEALTH WEEK

Canadian dentistry's campaign to make the public more aware of proper dental health practices, slated for February 3-9, has run into strong competition from an advertising campaign mounted by the Canadian candy industry. Unhappy that per capita consumption of candy in Canada is fairly static and is low in relation to the United States, United Kingdom and Western Europe, candy manufacturers have designated February as Candy Month.

It is estimated Canadians consume about 16 pounds of candy a year, Americans consume 19 pounds, Britons and Western Europeans close to 25 pounds of candy a year.

An industry-supported promotion this month will feature national, all-media advertising, dealer incentives, point-of-purchase promotions and advertising tie-ins with major retailers. Estimated cost for the February campaign will be \$1 million.

Dental Health Week, by contrast, is a public education effort by dentists, hygienists, dental nurses and assistants and is largely a volunteer effort supported by each of the corporate members of the Canadian Dental Association.

GIFTS TO CFDE IN 1973 OVER \$375,000

"1973 was by far the biggest year in the Canadian Fund for Dental Education's history," it has just been announced by Mr. M.E. (Bud) Bower, Chairman of the Board of Trustees.

"Gifts paid in full and pledged in the Capital Fund totalled \$283,000, and gifts to the Annual Fund were \$94,000. The largest single gift was \$45,000 to establish the Lorne E. MacLachlan Endowment Fund for teacher training," according to Mr. Bower.

"This outstanding level of support will enable the Fund to provide significantly more help for dental education and research," said Mr. Bower, "and the trustees want to express their grateful appreciation to each and every contributor."

LE COMITÉ D'ÉTUDE SUR L'AVENIR DE L'ADC RECOMMANDE LE BESOIN D'UN ORGANISME PUISSANT

Tous les délégués et de conseillers du comité spécial nommé pour étudier l'avenir de l'ADC étaient présents à la première réunion qui a duré une journée complète, le 9 janvier, à Toronto. Les délégués des corporations provinciales sont: Douglas McDougall, B.C.; J.E.L. Mathieson, Alberta; Elgin T. Duke, Saskatchewan; Alvin Shinoff, Manitoba; Warren Heaslip, Ontario; Vincent Dontigny, Québec; Gerald G. Orser, New Brunswick; Gerald Barrett, P.E.I.; Charles Oler, N.S.; et William Dwyer, Newfoundland. Et voici les conseillers qui assistaient à l'assemblée: A.J. Harris, Ontario; M. Trepanier, Québec; et K. Walsh, Newfoundland.

Le docteur John B. Macdonald, président du comité, a ouvert l'assemblée en notant qu'un nombre de professions se trouvent en présence des mêmes problèmes qui confrontent l'ADC; ce sont des problèmes qui émanent de la nouvelle législation qui interdit aux corporations de payer des contributions à un organisme fédéral. Toutefois, il faut reconnaître qu'il a des autres questions critiques qui exigent une réforme interne.

Les membres sont tombés d'accord sur le besoin permanent d'une association puissante et nationale pour représenter l'opinion des dentistes canadiens. De plus, le comité a recommandé avec énergie que les membres remplissent leur rôle sans préjugé et tentent de chercher les solutions qui seront les plus profitables à la profession de part le Canada.

Voici des questions critiques qui ont été abordées au cours de la journée:

1. L'absence de distinction entre les intérêts nationaux et provinciaux; c'est pourquoi il n'existe pas une nette division entre les responsabilités de l'ADC et celles des membres constituants.
2. Les mécanismes actuels ne permettent pas une participation suffisante des membres individuels aux décisions de l'ADC.
3. L'absence de procédés efficaces pour déterminer les priorités de l'ADC.
4. L'évidence du dédoublement des efforts de la part de l'ADC et des membres constituants.
5. L'impuissance de l'ADC de fixer ses propres revenus.
6. L'imminence d'une grande dépendance des membres volontaires.

Afin de présenter des recommandations au sujet de ces problèmes et d'en étudier d'autres à l'assemblée qui va se tenir au cours du mois d'octobre, 1974, le comité a établi un calendrier d'action. On nommera des comités qui seront chargés de fonctions précises entr'autres:

- . le développement et l'analyse de patrons qui pourraient servir d'alternatives à l'organisme actuel
- . l'examen et l'analyse de dépenses de l'ADC par rapport à ses buts et ses programmes, particulièrement en ce qui concerne les priorités et les avantages
- . l'analyse de sources possibles de revenu et de méthodes de rechange pour soutenir les services de l'ADC
- . le développement de méthodes pour déterminer les priorités
- . une enquête faite auprès de tous les membres de l'ADC

Deux comités spéciaux ont été formés. L'un s'occupera des aspects pécuniaires; il est composé des docteurs Heaslip, Mathieson, Dontigny, Oler et Macdonald. L'autre, chargé de l'étude sur les membres de l'ADC, est composé des docteurs McDougall, Duke, Barrett et Macdonald.



L'ADC NOMME UNE BIBLIOTHÉCAIRE

Adrian L. Emerson

Le docteur W.G. McIntosh, directeur exécutif de l'ADC, annonce avec plaisir la nomination de Mlle Adrian L. Emerson au poste de bibliothécaire du Sidney W. Bradley Memorial Library à Toronto. Mlle Colette Gagnon, la bibliothécaire précédente, a été retraitée le premier décembre, 1973.

Mlle. Emerson, née aux Etats-Unis, est venue au Canada en 1969. Après avoir terminé le cours de bibliothécaire au Ryerson Polytechnical Institute à Toronto, elle a passé deux ans au service de l'Etobicoke Library System à Etobicoke, Ontario.

Dès maintenant, les membres de l'ADC peuvent se procurer le nouveau catalogue de la bibliothèque sur demande. L'on accepte les demandes par téléphone et par la poste et on attire l'attention particulièrement sur le programme populaire d'expédition 'Emprunter par la poste' à la portée de tous les membres qui pratiquent loin d'un centre urbain.

LA SEMAINE DE LA SANTÉ DENTAIRE DOIT FAIRE FACE À UN CONCURRENT SÉRIeux

La campagne menée en février prochain par la profession dentaire en vue de l'éducation de la population comptera un concurrent de marque. En effet, mécontents du fait que la consommation de bonbons per capita au Canada soit plutôt faible et stable comparativement aux États-Unis, au Royaume-Uni et à l'Europe occidentale, les fabricants de bonbons ont choisi février comme 'le mois de bonbons.'

On estime que les Canadiens consomment environ 16 livres de bonbons par an tandis que les Américains consomment 19 livres et les Anglais et les Européens presque 25 livres par an.

La stimulation de la vente soutenue par l'industrie, projetée pour le mois de février, sera intensive; l'on se propose d'utiliser tous les médias d'information pour mener cette campagne dont le coût parviendra à \$1 million.

Au contraire, la semaine de la santé dentaire est un effort de la part de la profession dentaire, des hygiénistes, et des infirmières et auxiliaires dentaires en vue de l'éducation du public. De plus, c'est pour la plupart un effort volontaire soutenu par chacun des membres de l'ADC.

DONS DE PLUS DE \$375,000 AU FCED

M.E. (Bud) Bower, président du Conseil d'administration, vient d'annoncer que l'année 1973 a été de beaucoup la meilleure depuis l'existence du FCED.

M. Bower a dit que les dons consentis aux Fonds du FCED se sont élevés à \$377,000. La contribution la plus élevée a été de \$45,000 en vue de la Fondation de Lorne E. MacLachlan pour la formation des professeurs en médecine dentaire.

Un soutien exemplaire tel que celui-ci permettra le FCED de pourvoir plus efficacement aux besoins de l'enseignement et la recherche dentaires, a dit M. Bower. Il a exprimé des remerciements au nom des membres du Conseil d'administration à l'égard de tous les donateurs.

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Normal home usage—children—J.A.D.A. 51:556, 1955

Normal home usage—children—J.A.D.A. 64:216, 1962

Normal home usage—children—J.A.D.A. 72:408, 1966

Normal home usage—children—J. Canad. Dent. Assn. 36:262, 1970

Normal home usage—children—J. Dent. Child. 37:501, 1970

Normal home usage—children—J. Canad. Dent. Assn. 38:35, 1972

Normal home usage—children—J. Canad. Dent. Assn. 38:155, 1972

Fluoridated water—children—J. Dent. Child. 38:211, 1971

Supervised brushing—children—J.A.D.A. 58:42, 1959

Supervised brushing—children—J.A.D.A. 64:217, 1962

Supervised brushing—children—J.A.D.A. 65:482, 1962

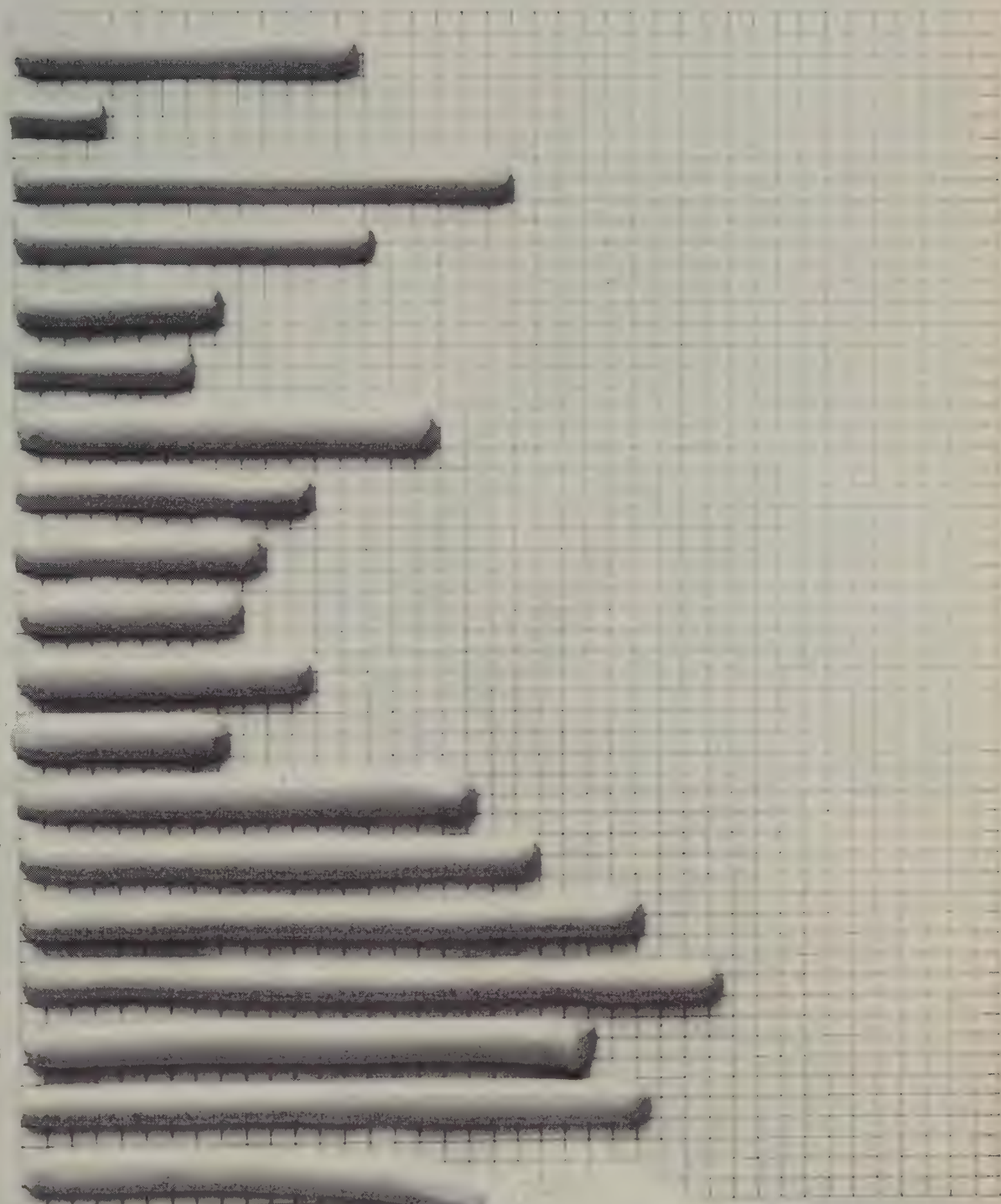
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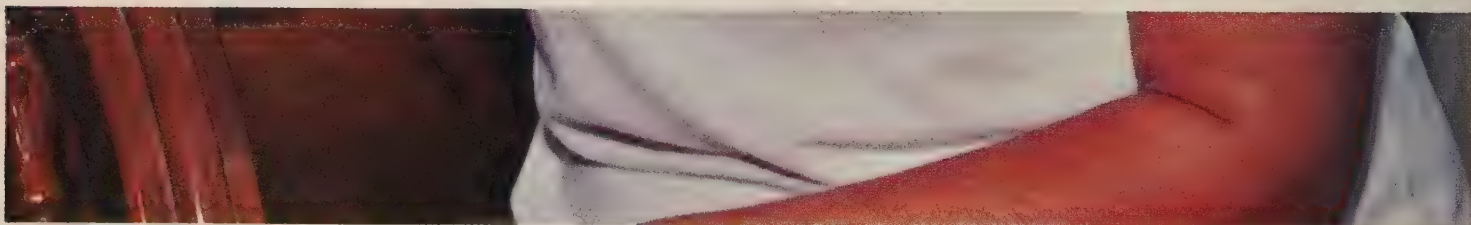
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JOURNAL

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Executive Director's Page 91

Editorials

Canadian dentistry's international activities 89

Fluorides and dental health care 89

Special Feature

Dental appointment with the sceptical Aymarás of Bolivia — Echlin 118

Regular Features

Letters 86

Dentistry in the news 95

Les actualités dentaires 113

Deaths 109

Announcements 83

Articles

A comparison of monopolar and bipolar pulp-testing — Hannam, Siu and Tom 124

Antibiotic therapy for the practising dentist — deVries and Francis 131

Utilization of fluorides in areas lacking central water supplies — Heifetz, Horowitz and Driscoll 136

Classified advertising 148

Advertisers' index 152

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Canadian Dental Association

1974 Toronto, Ont, Oct 6-9
1975 St John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14
1975 Chicago, USA, Oct 26-30

Royal College of Dentists of Canada

Part I Examinations (Basic Sciences)
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Part II Examinations (Oral) Dec. 6-7, 1974. Eligibility is based on successful completion of the Part I Examinations, plus submission of required case histories, and the lapse of five years since the candidate began his graduate training. Written intent to sit this examination with \$100 examination fee must be received before Mar 31, 1974.

Application forms for the Part I Examinations and further information may be obtained from J. E. Speck, Secretary-Registrar-Treasurer, Suite 614, 170 St. George St, Toronto, Ont. M5R 2M8.

Canadian Meetings

Winter Medical-Dental Assembly, at Mont Gabriel, Que. March 2-9, 1974. A. T. Wachna, 504 Medical Arts Bldg., Windsor 14, Ont.

Western Canada Dental Society Mid-winter convention and bonspiel, at Edmonton. March 7-9, 1974. W. G. Mabey, 701 Baker Centre, Edmonton, Alta.

American Society of Preventive Dentistry (Ontario Chapter), at Inn on the Park, Toronto. Apr 19, 1974. B. Garshowitz, 229 Yonge St, Ste 213A, Toronto, Ont M5B 1N9.

Quebec Dental Surgeons Association, at Bonaventure Hotel, Montreal. May 1-3, 1974. Mr. de Bastien, 4290 Beau-bien St E, Montreal 409, Que.

College of Dental Surgeons of British Columbia, at Hyatt Regency, Vancouver. May 1-4, 1974. K. L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC.

College of Dental Surgeons of Saskatchewan, at Moose Jaw. May 2-4, 1974. R. G. Tessier, 310 Hammond Bldg, Moose Jaw, Sask. S6H 3K1.

Ontario Chapter, Canadian Society of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto. May 12, 1974. A. F. Dungy, Ontario Crippled Children's Centre, 350 Rumsey Rd, Toronto 350, Ont.

Atlantic Provinces Dental Convention, at Dalhousie Arts Centre, Halifax. May 12-15, 1974. Dr. T. D. Ingham, P.O. Box 604, Halifax, NS.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 12-15, 1974. Mrs. W. C. Durham, 230 St. George St, Toronto, Ont. M5R 2P1.

Alberta Dental Association, at Palliser Hotel, Calgary. May 30-31, 1974. J. R. Duncan, 306, 1711-4th St. S.W., Calgary, Alta.

Sixth International Conference on Oral Biology, At Toronto, June 3-5, 1974. G. S. Beagrie, Faculty of Dentistry, 124 Edward St., Toronto, Ont. M5G 1G6.

Canadian Public Health Association, at the Arts and Culture Centre, St. John's, Nfld. June 17-20, 1974. CPHA, 1255 Yonge St, Toronto, Ont. M5T 1W6.

The Association of Canadian Faculties of Dentistry/L'Association des Facultés Dentaires du Canada, at Digby Pines, Digby, Nova Scotia. June 20-21, 1974. Dr. G. W. Myers, 3036 Dentistry/Pharmacy Centre, University of Alberta, Edmonton, Alberta, T6G 2H7.

Northern Ontario Dental Association, at North Bay, Ont. Sept 6-8, 1974. R. C. Weegar, 539 Cassells St, North Bay, Ont.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd., Ste 810, Toronto, Ont.

Canadian Association of Orthodontists, at Toronto, Sept 28, 1974. J. J. Schachter, Box 952, Saskatoon, Sask.

Canadian Society of Public Health Dentists, at Windsor, Ont. Oct 2-5, 1974. J. M. Conchie, 14265 — 56th Ave, Surrey, BC.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov 18-20, 1974. Miss M. Komarnicka, 4166 St. Catherine St W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel,

Toronto. Nov 28, 1974. Mrs. P. Williams, 230 St. George St, Toronto, Ont, M5R 2P1

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975, J. Bradey, 320 Eramosa Rd, Guelph, Ont.

Canadian Academy of Paedodontics/ Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton, Toronto, May 17-18, 1975. J. Duncan, 155 James St. S, Suite 130, Hamilton 10, Ont.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May

18-21, 1975. Mrs. W. C. Durham, 230 St. George St, Toronto, Ont, M5R 2P1.

International Meetings

Prosthodontic Society of South Africa, at Johannesburg, S. Africa. Apr 1-5, 1974. Congress Secretary, Private Bag 1, Houghton, Transvaal, S Africa.

German Dental Congress, at Hamburg, Germany. Apr 15-28, 1974. Bundesverband der Deutschen Zahnärzte e.V., 5 Köln 41, Postfach 410168, Germany.

International Congress of Maxillofacial Radiology, at Kyoto, Japan, April 18-21, 1974. Secretariat, International Congress of Maxillofacial Radiology, Gifu College of Dentistry, P.O. Box 2, Hozumi, Gifu 501-02, Japan.

International Conference on Oral Surgery, at Madrid, Spain. Apr 21-25, 1974. International Conference on Oral Surgery, PO Box 46078, Madrid, Spain.

International Congress of Dentistry for the Handicapped, at Amsterdam, Holland. Apr 22-24, 1974. M. M. Album, Medical Arts Bldg, Hillside Ave and York Rd, Jenkintown, Pa 29046, USA.

Asian-Pacific Dental Congress, at Jakarta, Indonesia. June 18-22, 1974. Dr. Yetty Rizali Noor, Faculty of Dentistry, Trisakti University, Grogol, Jakarta, Indonesia.

Australian Orthodontic Congress, at Sydney. Aug 5-9, 1974. P. Kinsella, 11 Anderson St, Chatswood, N.S.W. 2067, Australia.

New Zealand Dental Association, at Auckland. Aug 26-30, 1974. Conference Secretary, New Zealand Dental Association, PO Box 28084, Auckland 5, NZ.

Annual World Dental Congress of the FDI, at Royal Festival Hall, London. Sept 8-15, 1974. A. G. Alexander, British Dental Assn, 64 Wimpole St, London, England.

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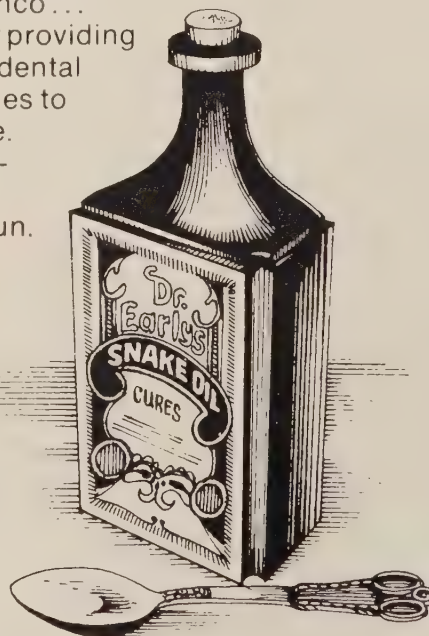
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Letters/Courrier

Dr. Donald Gullett

I write on behalf of the President and members of FDI to offer to the officers and members of the Canadian Dental Association our sincere sympathy over the death of Dr. Donald Gullett, a man who did so much for dentistry in Canada.

The Federation too has lost one of its much respected and admired members of the List of Honour. Dr. Gullett did much for dentistry not only nationally but also internationally. He was respected by all who knew him and his passing will be mourned deeply.

*Dr. G. H. Leatherman
Executive Director
Fédération Dentaire Internationale*

Activities of CFDE

I read Dr. McIntosh's Oct. '73 editorial with mixed feelings. Activities of the CFDE, to date, have been quite commendable and have made a very significant contribution to dental education in Canada. There is, however, one area where the CFDE can and should do much more in order to achieve its full potential. There are many graduate

students, like myself, who fully intend to assume a part-time teaching position at a Canadian dental university upon completion of a certified program.

Unfortunately, these students are unable to obtain the written commitments to a staff position for a variety of reasons and are thus routinely refused financial aid from the CFDE (in spite of their academic, research, and extra-curricular achievement). These students are thus obliged to depend on the financial aid of banking institutions (current interest rates being at least 10%) in order to continue said education.

As you are well aware, the AFDE has made available loans to graduate students. Cannot the CFDE do likewise?

Having accepted the burden of these bank loans for at least the two year course, how can these dentists ever be expected to contribute to the CFDE, when they themselves were not given any type of required assistance?

*Marvin Steinberg B.Sc. D.D.S.
Chestnut Hill, Mass.*

Reply from Canadian Fund for Dental Education

I am pleased to have the opportunity of commenting on Dr. Steinberg's interesting letter.

Since it was organized in 1962, CFDE has been vitally interested in

providing highly qualified teaching and research personnel for Canadian dental faculties. Accordingly more than half its resources (\$275,000) has been invested in fellowship awards to assist dentists to take additional training in order to pursue academic careers.

A full or half-time teaching commitment from a dental school has always been an important yardstick in determining eligibility for a fellowship, particularly if the applicant is in a clinical specialty.

However, both the Fund trustees and the members of the Advisory Committee on Fellowship Selection are aware that due mostly to financial restrictions it is becoming increasingly difficult for a dental school to provide such a forward commitment. Therefore, alternative ways of ensuring that a CFDE fellowship recipient does pursue an academic career are currently being investigated.

For several years the American Fund for Dental Education has had a highly successful loan program for undergraduate dental students. In August 1973 it was expanded to include graduate students. However, one has not been established to date, mostly due to lack of capital.

The CFDE trustees are certainly sympathetic to the financial problems of Canadian graduate and undergraduate dental students and undoubtedly will continue to seek ways and means of offering more assistance as soon as possible.

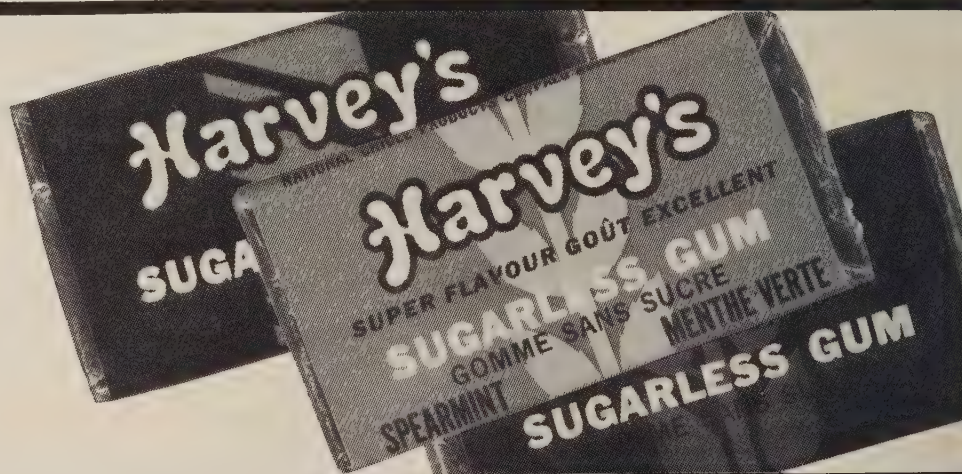
*D. Murray McDonald
Executive Director CFDE*

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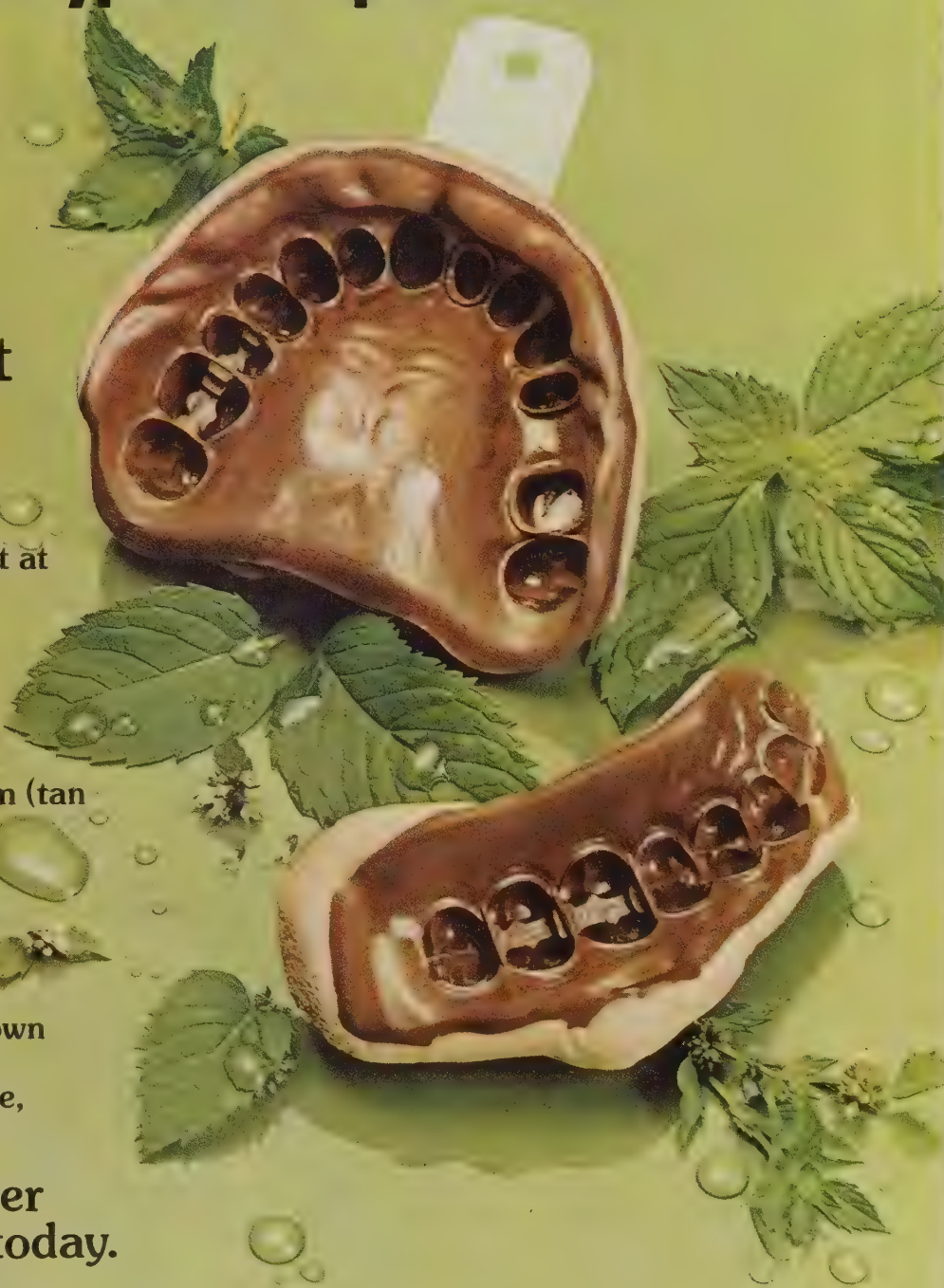
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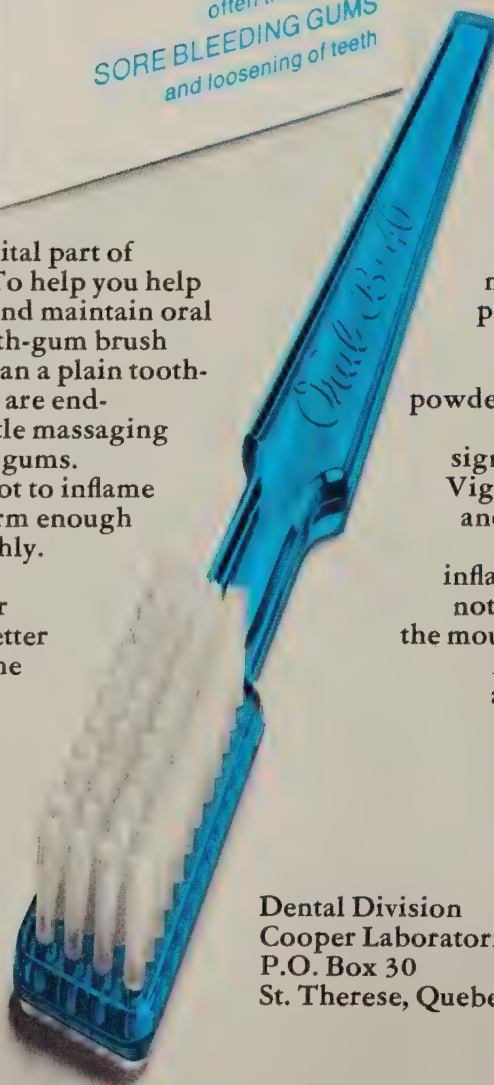
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EDITORIAL

Canadian dentistry's international activities

We are pleased that our association was one of those who sent congratulations to the World Health Organization in recognition of 25 years of successful activities promoting health throughout the world. The WHO has been one of the most widely accepted programs of the United Nations. It is a challenging fact that nations which disagree politically have found it possible to communicate easily at the level of their health scientists, and for these representatives to collaborate on health projects around the world almost without thought of national boundaries. Perhaps someday, historians will be in a position to judge the extent to which communication at the scientific level has eased tensions and developed goodwill at all levels of international activity. We suspect that the contribution is substantial. All Canadians should feel proud that Canada is one of the countries which has always honoured its financial obligations to support WHO.

The Canadian dental profession could well afford to do more to aid dental health workers in developing countries. There are countries in Central and South America which have fewer than one dentist per 50,000 population. In these countries not one person in a hundred can ever expect to be treated by a dentist in his whole lifetime. We have been told by dental authorities at the Pan-American Health Association that Canadian dental consultants would be very welcome participants in their programs.

Some Canadian dentists have been active. The CDA Caribbean Dental Program, which is supported by a grant from CIDA (see March 1973 issue) has made a splendid contribution under the direction of Dr. G. E. Burgman's committee. Dr. Robert Echlin's visit to Bolivia, described in this issue, is another step in the right direction. But only some 370 Canadian dentists are supporting members of the Fédération Dentaire Internationale, which has chronic difficulties in financing its important international dental programs.

Paraphrasing words of the late J.F. Kennedy — as we rebuild the Canadian Dental Association this year under the guidance of the Task Force, we should think a bit less about what the CDA can do for us and a bit more about what Canadian dentists should be doing for their confrères abroad by playing a larger role in international dental affairs. As a spin-off, perhaps some of our own regional and provincial differences would shrink in importance if we dwelt less on them and assumed more responsibility for dental health in the Western Hemisphere.

R.M.G.

Fluorides and dental health care

A part of the Canadian population living in true rural areas in communities so small that water fluoridation is not economically practical, must obtain their fluorides by dietary supplements, topical applications or dentifrices. The article by Heifetz et al, appearing this month, is a comprehensive review of the ways in which the dental profession can prescribe fluorides to those who do not have access to community water systems. Thus, there remains very little excuse for any child to grow up in Canada without receiving fluoride protection for his teeth.

We find it incredible that after a quarter of a century of favourable experience with water fluoridation, over nine million Canadians who could be receiving fluorides through their community water system are still denied access to this proven health benefit. Will the day not come soon when taxpayers will protest that they must bear the burden of avoidable treatment costs as dental care programs are introduced in non-fluoridated communities? We also ask if the dental profession should not demand that fluoridation be mandatory in all communities before it yields to pressures to dilute its ranks with lesser trained auxiliaries in order to be able to cope with a treatment overload which fluoridation could prevent.

R.M.G.

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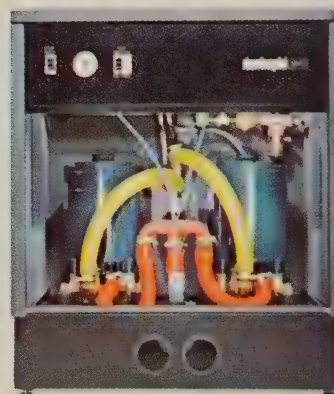


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EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

CONTINUING SERIES ON CDA SERVICES

Fluoridation

The Association has tried to assume a leadership role in the promotion of fluoridation of communal water supplies. Its services in this regard have included the submission of briefs to investigating committees; the preparation and publishing of scientific statements on fluorides in relation to dental health; free loan of films on fluoridation for dental and lay audiences; production and distribution of educational pamphlets on fluoridation; gathering of fluoridation statistics world-wide and especially from Canadian communities; annual publication of the Canadian statistics and their distribution on request; the development of fluoridation kits for distribution to individuals and communities interested in the promotion of fluoridation; the accumulation of files on anti-fluoridation activities; issuance of authoritative statements and critiques when called upon by the news media or in rebuttal to anti-fluoridation news releases; and the answering of hundreds of requests about all aspects of fluoridation from students, parents, communities, governments, dental groups, other health groups, etc.

The Association is indebted for these many phases of its fluoridation promotion program to volunteer members of its Councils, especially the Council on Research, and to the fluoridation officer of the Bureau of Public Information.

The above activities have made the Association the focal point for fluoridation information and

promotion in Canada. The Department of National Health and Welfare has indicated some interest in assuming these responsibilities but to date has not done so. Therefore, if the Association ceases to be active in this area, there would be no central source of fluoridation information; statistics would soon be out of date; communities wishing to fluoridate would lack the guidelines presently available from the Association; and dental practitioners would lose the national facility that now helps them with their various questions about fluoridation.

Question No. 10

Do you think the CDA should maintain a facility at headquarters to gather statistics and all related documentation on fluoridation and to make this information available on request to dental practitioners and others who are interested in promoting fluoridation?

Workshop Conferences

For some years, the Association has sponsored teaching conferences and, with the Association of Canadian Faculties of Dentistry as co-sponsor, research and educational conferences.

The teaching conferences have been fostered by the Council on Education. Their chief purpose is to

bring together one or more dental educators from each Canadian dental school to compare notes on teaching methods and curriculum content in pre-determined subject areas. Those who have participated acclaim the conferences as an effective, practical way of updating their educational programs. Benefits accrue to the profession, as a whole, as well as to the public it serves.

The Council on Research acts as co-sponsor along with ACFD to organize the biennial Canadian Research and Education Conferences. The main objective is to create a forum where dental researchers in Canada can get together to discuss and coordinate their various research activities. These conferences encourage the researchers. Through discussion and exchanges with the educators, they also stimulate early practical implementation of the new knowledge brought forward by research.

In recent months other workshop conferences on insurance and investment and on continuing

education have been held. Similar conferences on dental auxiliaries and dental school admissions are to be held early in 1974. Such conferences are planned as study sessions. Relevant information is placed before the participants by the participants. There is no pressure to form hard and fast conclusions. The conferences are to inform, not to direct. Hopefully, from a free exchange and filtering of ideas, the participants will return home better able to deal with related problems in their own communities.

Question No. 11

Do you think your Association should sponsor national workshop conferences for the exchange of ideas pertinent to the practice of dentistry?

Your opinion is valuable. In order to share it with others, letters to the Executive Director may be used in the Journal, *unless the writer specifies otherwise.*

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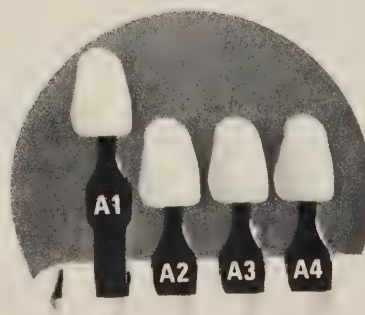
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CDA up-dates fluoridation statistics

The 1972 year-end tabulation by Lloyd Bowen, Fluoridation Officer of the CDA Bureau of Public Information, shows 125,000 more Canadians than the preceding year drinking fluoridated water. This brings the total number of persons served by fluoridated water supplies to almost eight million.

Unfortunately, over nine million Canadians who are served by piped water and who could, therefore, have fluoridated water are still without its benefits. Just under 5 million Canadians are not on piped water systems

nor drink naturally-fluoridated water.

"The growth in fluoridation is just slightly higher than Canada's population growth," says Mr. Bowen. "Less than half (45.7 per cent) of Canadians who could have controlled fluoridation are now getting the dental health benefits of treatment."

Some major municipalities which don't have fluoridation but could have include Montreal, Quebec City and Chicoutimi, Kitchener, Thunder Bay, St. Catharines, Regina, Calgary, Vancouver, Saint John, N.B. and St.

John's, Newfoundland.

Provincial fluoridation standings as a per cent of population served by waterworks are Manitoba with 89.8, Northwest Territories with 84, Yukon with 79.2, Ontario with 73.3, Nova Scotia with 66.4, P.E.I. with 63.2, Saskatchewan with 57.7 and Alberta with 50.1 per cent.

Below the national average of 45.7 per cent are New Brunswick with 24.5, Newfoundland with 15.1, Quebec with 15 and British Columbia with 11.5 per cent fluoridation.

Two new CDA films available

Convention-goers at Vancouver saw the premiere of two new color films, produced for the CDA by Dr. G.E. Sparrow of Toronto. "Do It Yourself Prevention" should prove to be a popular choice for patient education and presentation to lay audiences. "Oral Pain" is a professional film which is recommended as continuing education for dentists.

"Oral Pain" features Dr. Calvin Torneck, DDS, MS, FRCD(C), Associate in Dentistry, University of Toronto. It deals with the clinical aspects of dental pain and the differentiating of dental pain from other causes of pain in the oral region. Beginning with a brief description of sensory innervation to the teeth and jaws, the film then describes some of the general aspects of the pain phenomenon with particular emphasis on referral of pain to distant and related sites.

Three types of dental pain, pulpal pain resulting from pulp necrosis and apical osteitis and pain produced by a periodontal abscess, are then described and compared using actual clinical cases as models. The clinical tests used to differentiate these entities as well as

the treatment used to relieve the symptoms are given in detail.

Lastly, other causes of oral facial pain are listed and briefly described, to bring to the attention of the clinician the importance and the difficulty of always establishing the proper diagnosis prior to initiating therapy.

"Oral Pain" is in full color, and is 18 minutes in length.

"Do It Yourself Prevention" is also in full color, and 18 minutes in length. It features Dr. John Speck, DDS, Dip. Periodont., FRCD(C), Professor and Chairman, Department of Periodontics, University of Toronto, discussing the role of plaque and its contributions to periodontal disease and tooth decay. Proper brushing and flossing are demonstrated and use of supplementary materials such as stimulants, piks, disclosing tablets and floss holders are illustrated.

Prints of both films are offered for sale from the Canadian Dental Association. Both are also available through the CDA's film service. To book a print for previewing before purchase, or for a program showing, direct enquiries to: Modern Talking Picture Service Inc., 1875 Leslie Street, Don Mills, Ontario.

Minnesota Court upholds fluoridation law

The Fluoridation Reporter of the American Dental Association has announced that the first suit opposing fluoridation on grounds of pollution was recently dismissed by the Minnesota State District Court.

Minnesotans Opposed to Forced Fluoridation, Inc. acted in opposition to the fluoridation of water supply in Brainerd, charging the state fluoridation law to be in violation of the Minnesota Environmental Rights Act. According to the organization, fluoridation pollutes the environment, which they contended, includes man.

Gordon L. McRae, judge of the District Court, found the allegations to be groundless. He discounted the claim of George L. Waldbott, M.D. that fluoridation leads to a multitude of adverse effects upon man. Citing endorsements from the American Medical Association and the American Academy of Allergy, Judge McRae found the great weight of evidence contrary to Dr. Waldbott's claims.

Fluoridation was also opposed on grounds that it violated the constitutional rights of the citizens of Minnesota. The Court also overruled this objection, citing numerous other cases which upheld state legislative powers in matters concerning public health.

Implications of the Combines Investigation Act

Introduction in November of significant amendments to the Combines Investigation Act, dealing with such matters as the publishing of fee guides for dental services, brought prompt action from CDA Executive Director, Dr. W. G. McIntosh. He spoke immediately with Deputy Director, F. C. Gascoigne, of the Department of Consumer and Corporate Affairs to obtain clarification of such matters as those referred to in the following excerpts from explanatory documents.

"The prohibitions of the Act against combinations, mergers and monopolies, which now are largely restricted to production and trade in articles or commodities, are extended to apply to all services and service industries.

"As a result, all economic activities will be subject to the Act except those that are exempted either by the Act itself or as a *result of other legislation*.

"Under the Bill, the various definitions and prohibitions in the Combines Investigation Act are extended to embrace services.

"The professions, financial institutions, a broad range of communications services and all recreational services, including professional sports, would also be covered in so far as other types of social control did not apply.

"Bona fide trade union activities have always been exempt from the Combines Investigation Act and would continue to be so. Another class of exemptions would be service activities covered by regulatory laws. Services such as telephones and other forms of communication, electrical power and the professions would continue to be immune from the legislation *to the extent that their activities were regulated or expressly authorized by law*. This immunity is not stated in the Bill, but stems from judicial interpretation.

"Many of the professions enjoy extensive powers of self regulation under Provincial statutes, particularly in matters affecting professional standards such as entry requirements. The proposed amendments would not affect those arrangements. However, commercial activities such as fixing of fees are frequently not covered by the

provincial laws, and in such cases they would henceforth have to be in accordance with the provisions of the Combines Investigation Act, unless covered by valid provincial legislation."

The Economic Council of Canada dealt at some length with the special requirements of professional groups as they relate to competition policy in its Interim Report on Competition Policy. It was clearly of the opinion that fee setting and other economically significant practices of the professions should be subject to some suitable system of checks and balances. Three possible systems are competition policy, collective bargaining where there is an appropriate authority to bargain with, or direct regulation. While leaving open the possibility of any of the three, separately or in combination, the Council gave first place to competition policy. It stated: "As a general rule, arrangements for determining the remuneration of self-employed professional and other groups should be subject to competition policy. Where, however, a group prefers a collective-bargaining or public-regulatory arrangement, and where conditions are such that this arrangement constitutes an adequate check-and-balance system, it would be in order to grant an exemption from competition policy in respect of those matters specifically covered by the alternative arrangement."

Mr. Gascoigne clarified the important area of fee guides as published by provincial dental associations. He stated that a problem would only arise if the professional association went beyond the powers granted it in provincial statutes so as to fall within the ban on agreements to unduly lessen competition.

In the absence of statutory authority, he felt it would not be possible to say, in advance, what construction would be put upon recommendations made by associations and put into effect by individual members. In some circumstances, it might be shown that this is, in effect, an agreement or conspiracy within the meaning attached to such words by the courts.

Mr. Gascoigne also pointed out that the Minister has taken the position that that part of the Bill relating to services may be deferred to permit the services sector time to adjust its affairs to the new law and for the provincial authorities to arrange for whatever regulation they may deem appropriate.

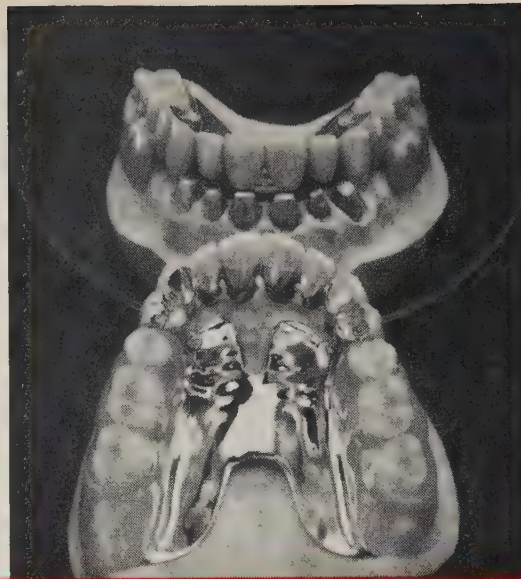
The Minister, Herb Gray, stated at the time of the Bill's introduction that the time has come that such industries and professions should be subject to the same rules of conduct as manufacturing and other industries.

"It would appear," says Dr. McIntosh, "that if the practice of dentistry is not to be included in the terms of the Bill, the exemptions must be achieved through provincial dental acts."

Canadian Forces Dental Services



Lawrence G. Craigie CD, DDS, QHDS, FICD was promoted to the rank of Brigadier-General becoming Director General of Dental Services for the Canadian Forces on November 1, 1973. Born in Kamsack, Saskatchewan, he obtained a DDS from University of Toronto in 1943 and enrolled in the Canadian Dental Corps serving until demobilization. He began his regular force career in 1948 and has held senior appointments in Europe and with the Dental Division of National Defence Headquarters. Most recently as Commandant of the Canadian Forces Dental Services School he was prominent in the training of dental tradesmen and was responsible for organization and implementation of the retraining program for Czechoslovak dentists in 1969.



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Signing the \$1.5 million agreement between the University of Toronto and the Medical Research Council are left to right: Dr. John R. Evans, President, University of Toronto and Dr. G. Malcolm Brown, President, Medical Research Council.

\$1.5 million MRC grant to U of T

Dental research in Canada received a major thrust at the start of the new year, with a Medical Research Council of Canada pledge of \$1.5 million over the next five years to finance basic research in periodontal physiology, and the factors that influence cells of the supporting tissues of teeth. The grant was given to the University of Toronto and to Dr. A.H. Melcher, head of the MRC research team at the Faculty of Dentistry and professor of Biological Sciences. The University will contribute toward the project with costs and part of the salaries involved. Its share is estimated at between \$400 and \$800 thousand over the period.

Diseases of the bones, flesh and ligaments around the teeth cause more tooth loss in older people than decay. So little is yet known of the causes of these problems that treatment can only provide an environment to encourage the cells to repair the destruction. More knowledge of basic processes might permit direct treatment to cure the diseased tissue.

Orthodontic treatment also involves the manipulation of supporting structures of the teeth, when crooked teeth are straightened. Greater understanding of the underlying processes could therefore produce better orthodontic treatment for young children.

Dr. Melcher has pointed out the

uniqueness of his team, since each member has a different scientific background. Dr. Melcher, 46, has carried out research in England before coming to Canada, and is the only team member trained in dentistry. Others on the team include: Dr. J.N.M. Heersche who has researched transplantation immunology and the effect of hormones on bone cells; Dr. Jaro Sodek is a biochemist interested in protein structure and enzymes; Dr. D.M. Brunette is a cell biologist with special knowledge in the isolation and behaviour of cells; and Mr. T.W. Walker is an engineer whose research into the mechanical action of the human hip joint provides background for similar measurements of physical change in the biological structures supporting teeth.

Dr. Melcher told the *Journal* he wanted to point out to colleagues in dental faculties throughout the country, a planned spin-off from this particular research project.

"This grant will allow our team not only to make a contribution through our research, but also in the training of young dental scientists, who will be working with us at the graduate and post-doctoral level during the course of the project. They will undoubtedly be looking forward to pursuing their areas of interest in dental research in other dental schools."

Plan now — and play later film

Dentists who want to learn more about plans which offer various types of protection and turn productive years into investments for the future can now borrow a brand new film cartridge from Canadian Dental Service Plans Inc.

W. E. (Gene) Jackson, Insurance Plan Administrator, says the new film is turning out to be very popular with dental groups and individual societies who want program information.

"We are using the Fairchild Seventy-07 Portable Super 8 projector because a number of practitioners already have these for patient educational purposes in their own offices, and they are also available from some film equipment rental firms," Mr. Jackson said.

There is no charge for shipment of the film cartridge anywhere in Canada; however, if the projector itself must be supplied, a shipping charge will be levied.

Groups and societies are advised to book well in advance of their proposed program date, through W. E. Jackson, Canadian Dental Service Plans Inc., 230 St. George St., Toronto, Ontario M5R 2P1.

The film will be most useful if it is shown in conjunction with a speaker, who should also be booked through Mr. Jackson at CDSPI. Guest speakers might include Mr. Jackson, himself; Dr. Orville Wright of Vancouver; Dr. Roy Rasmussen, Calgary; Dr. R. Hugill, Toronto; Dr. D. C. Way, London, or Dr. D. C. Steeves of Moncton.

5T4 Reunion

Members of the class of 5T4 are reminded of the reunion planned for May 14 at the ODA Convention, Four Seasons Sheraton Hotel, Toronto. A dinner and hospitality room are planned.

For further information, contact: Dr. J. J. Simpson, 270 Runnymede Road, Toronto, Ontario.



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Conventions and income tax

CDA has received a new interpretation bulletin from National Revenue which outlines some important aspects of computing income tax with regard to attendance at conventions. Since every year CDA is asked to help with a number of attempted appeals by members from tax rulings on convention expenses, the information should be noted by every dentist.

"The Income Tax Act permits a self-employed taxpayer, who is carrying on a business or practising a profession, to deduct, in computing his income, the expenses incurred by him in attending not more than *two conventions* a year provided that the conventions

(a) were held by a business or professional organization, and

(b) were attended by the taxpayer in connection with a business or professional practice carried on by him.

"The taxpayer need not be a member of the organization sponsoring the convention, but to qualify for a deduction, his attendance at the convention must be related to his business or professional practice.

"The Act provides that deductions can be made only for expenses in attending conventions at locations consistent with the territorial scope of the organization holding them. Accordingly this would generally require that a convention sponsored by a Canadian business or professional organization be held in Canada where the organization is national in character, or in the particular province, municipality or other area in Canada where the activities of the organization are limited to such area.

"Consequently, expenses incurred in attending a convention sponsored by a Canadian organization outside those geographical limits will normally be viewed as not deductible in computing income. For this purpose a convention held during an ocean cruise will be considered as being held outside Canada. This restriction is not intended, however, to deny a taxpayer a deduction of reasonable expenses incurred by him in genuine attendance at, and participation in, convention in another country that is organized or sponsored by a business or profes-

sional organization of that country that is related to his business or practice.

"A taxpayer who combines attendance at a convention, whatever it is, with a vacation trip must allocate his expenses on some reasonable basis to eliminate those that are essentially for vacation purposes. A reasonable basis is considered to be one that allows the taxpayer to deduct the full cost of travel (i.e., transportation and necessary meals and accommodation en route) from his place of business to the convention and back by the most direct route available, and the costs and accommodation while participating in the convention. All such costs must be reasonable as required by section 67.

"It should be noted that expenses incurred by or for the taxpayer's wife and children while accompanying him to or at a convention or on a combined convention and vacation trip are normally considered to be personal. As such, they are not deductible."

In the past, major pitfalls in claiming convention expenses have been: (1) attempts to claim for more than two conventions a year, (2) not retaining receipts and keeping accurate records of expenses, (3) attempting to claim expenses for a spouse who accompanies the dentist on the trip, and (4) trying to claim all expenses for an extended vacation trip to attendance at a convention.

CDA has made many representations to the Taxation Division on the interpretation of what portion of expenses for a combined convention-vacation trip are reasonable to charge as expenses for the convention. The CDA has always held that the full cost of transportation to and from the convention should be allowed. Previously, the interpretation was that only a portion of the transportation could be allowed. CDA is gratified to find the new interpretation accepts the Association's position.

The Bulletin also clarifies the fact that a professional may attend conventions in other than his own country. Again CDA has appealed many local tax office rulings which attempted to deny this privilege.



Endodontic president

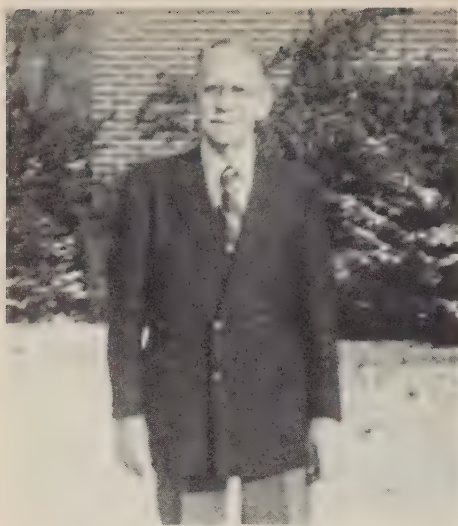
The Canadian Academy of Endodontics elected Dr. E. Charles Aho as President, in October at its Vancouver annual meeting. Dr. Aho is a founding member of the Academy, as well as a founding member and past president of the Toronto Endodontic Study Club, now called the George Hare Endodontic Study Club.

Dr. Aho is on the Board of the Royal College of Dentists and is a Fellow of the College. He was formerly an Associate Editor and Business Manager of the Ontario Dental Association Journal.

Dental assistant honoured

Penny Waite, well-known Saskatoon Dental Assistant, was recently honoured with three separate accolades. In September, she was made a Life Member of the Saskatoon Dental Nurses Society; and in October at the Canadian meeting in Vancouver, she was made an Honorary Life Member in the Canadian Dental Nurses and Assistants Association.

Miss Waite was also the recipient of the Mary Grozak Fullerton Loyal Assistant Trophy. This award is given to a member of the Association who has demonstrated outstanding loyalty through continuous employment with one dental office. Miss Waite received the trophy after 29 years of service.



M. E. Jarrett honoured

A life membership in the Ontario Public Health Association has been awarded to public health dentist, M.E. Jarrett, Kitchener, Ontario.

Dr. Jarrett has recently been in the public health eye for his Incremental Care Plan for three-year-olds in Waterloo County. This study was funded by the Ontario Ministry of Health as a demonstration project.

"Clinical aspects should be completed by the end of 1974," Dr. Jarrett told the Journal. "Working with Dr. Donald W. Lewis of the University of Toronto, Faculty of

Dentistry, I hope to have a final report ready for the Ministry by the end of March, 1975."

Life membership in the O.P.H.A. was awarded to Dr. Jarrett in recognition of his many contributions to dentistry in the public health field. His experience included regional appointments with Wellington-Halton-Wentworth, Brant-Waterloo and Perth County Health Units, and as Acting Senior Consultant in Dental Health to the Ontario Department of Health. He is currently Director of Dental Health for the Waterloo Regional Health Unit.

International College of Dentists

The annual dinner and convocation of the Canadian Section of the International College of Dentists was held October 15, in Vancouver. At the Board of Regents meeting following the induction of new members, the following were either elected, appointed or reconfirmed in their respective offices:

President, Dr. John Sherman, Toronto, Ontario; President-elect, Dr. George M. Dewis, Halifax, N.S.; Vice-President, Dr. R. D. Haryett, Edmon-

ton, Alta.; Past President, Dr. M. Nacht, Vancouver, B.C.; Treasurer, Dr. H. R. Skilling, Toronto, Ontario; Editor, Dr. D. M. Tanner, Ottawa, Ontario; Registrar, Dr. E. A. White, Toronto, Ontario; Deputy Registrar, Dr. W. J. Spence, Toronto, Ontario.

Regents and Deputy Regents: District No. 1, Dr. C. R. Hallman, Vancouver, B.C.; District No. 2, Dr. G. C. Swann, Edmonton, Alta.; District No. 3, Dr. W. Hancock, Fort Qu'Appelle, Saskatchewan; District No. 4,

Dr. J. Preston Beattie, Winnipeg, Man.; District No. 5, Dr. Harold N. Beach, Ottawa, Ontario; Deputy, Dr. Mark G. Boyes, Willowdale, Ontario; District No. 6, Dr. P. C. Staples, Montreal, Quebec; Deputy, Dr. L. Bernier, Sillery Quebec; District No. 7, Dr. R. H. Bingham, Halifax, N.S.; Deputy, Dr. M. Reginald Lyn, Kingston, Jamaica; Chairman Scholarship, Dr. Ronald E. Jordan, London, Ontario; Chairman Past President, Dr. Thomas H. Johns, Victoria, B.C.; Archivist, Dr. Conrad Godin, Trois Rivieres, Que.

Seated with President M. Nacht and Regent C.R. Hallman, both of Vancouver, were the candidates inducted into the International College of Dentists. Left to right, front row: D.K. Peters, St. John's; H.M. Jolley, Toronto and R.M. Wiener, Montreal. Second row: H. Henderson, Kelowna; S. Margolese, Vancouver; W.D. McDougall, Victoria; L.G. Mandin, St. Paul; E.P. Millar, Montreal and H.G. Pettapiece, Victoria; S. Silver, Montreal; M.J. Snidal, Winnipeg; Col. W.R. Thompson, Astra; D. Yeo, Vancouver.





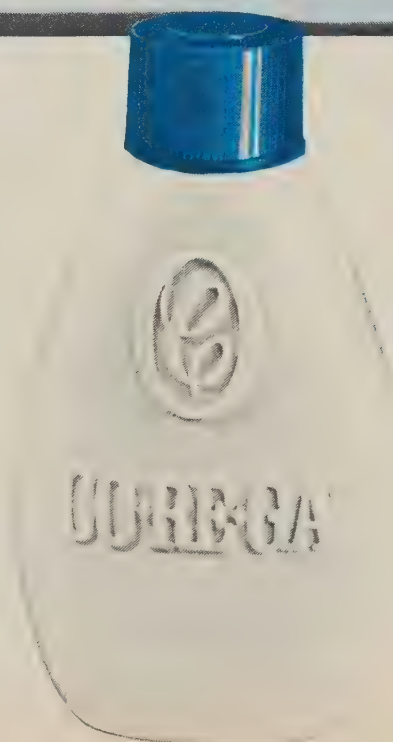
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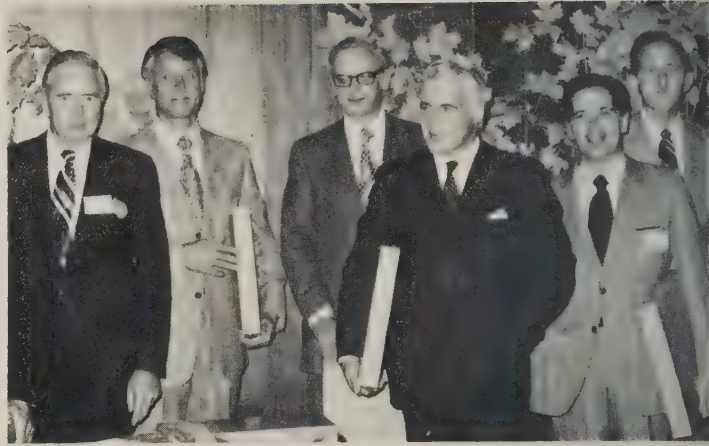
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Canadian Society of Oral Surgeons



At their October annual convention, Mont Gabriel, P.Q., the Canadian Society of Oral Surgeons celebrated their 20th anniversary, marking the event with a souvenir plaque for each past president. In the photographs at the left are (L-R) Gaston Chesnay, Montreal; Gérard DeMontigny, Montreal; D.M. Tanner, Ottawa; George Strelloff, Edmonton; Paul Mercier, Montreal;



Peter Smylski, Toronto; Alva Sawanson, Vancouver; Albert Antoni, Freeport, Bahamas; F. Smith, Vancouver and Antoine Raymond, Montreal. In the photograph on the right are (L-R) D.H. MacDonald, Toronto; P. Luxford, Calgary; K. Lindsay, Vancouver; André Charest, Quebec; Eric Millar, Montreal and A. Hoffman, Halifax.

Your opinion is important to the Task Force on the future of the CDA

What do you think?

The Task Force on the future of CDA wants to know what every dentist in Canada thinks about our Association.

Do you know what services the Association provides for you?

Are they useful?

Are there other services you would like to have?

Do you approve of the programs conducted by CDA in your name?

Are you looking for a way of expressing your views and shaping the Association's future?

In April you will be asked to answer some questions about these subjects in a survey that will be addressed to every dentist in Canada. Please take the time to answer the questions so that the Task Force can make recommendations that truly reflect the profession's wishes.

Most of all, don't ignore the survey. Even if you don't care about the CDA it's important for us to know that, and we'll provide a way for you to tell us just that, without completing a questionnaire. If you simply don't answer, the Task Force will have no way of knowing whether you don't care, were too busy, were annoyed by the questionnaire, or just mislaid it.

CDA is your Association. So please help to see that it serves you.

Watch for the survey in April.



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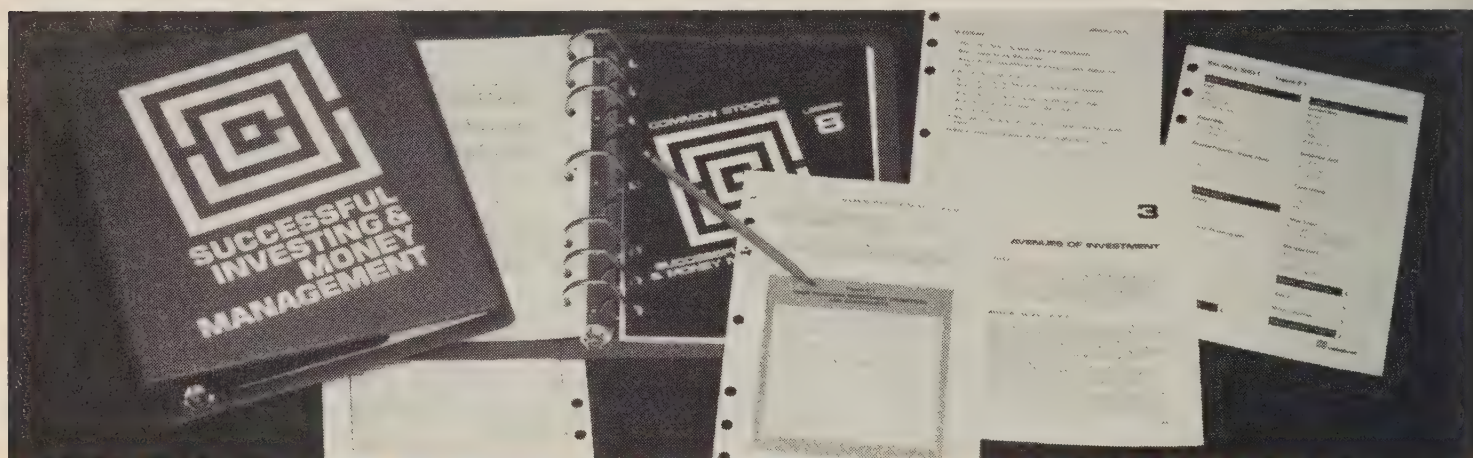
combined efforts of some of Canada's leading financial and investment talent, headed by an Advisory Board of prominent Canadian business leaders. Their combined knowledge and expertise has been brought together under the direction of a highly-qualified educator to ensure that the SUCCESSFUL INVESTING & MONEY MANAGEMENT course is practical and, above all, educationally sound.

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investment funds • how to borrow • how to implement your investment programme • how to select potentially profitable stocks, warrants and rights, bonds and debentures • how to choose a stockbroker • mortgages and their excellent profit opportunities • life insurance • pension plans and retirement savings plans • taxes and the new tax laws • how to read and interpret financial statements and annual reports • how to evaluate your own investment performance.

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2. ASSESSING YOUR PERSONAL WORTH — How to value your personal assets and financial position before starting up an investment programme. Setting up your personal balance sheet — analyzing your present income — expenses and budgeting — planning ahead.

3. AVENUES OF INVESTMENT — The major forms of investment are introduced and explained to show how they can work for you. Investment objectives — common shares — preferred shares — mutual funds — bonds — real estate — mortgages — pensions — insurance.

4. SOURCES OF MONEY — How you can obtain funds for investing, apart from your regular income. The cost of borrowing — how to borrow at the lowest rate — where to borrow — why — buying securities on credit — property mortgages — borrowing on life insurance policies — renting vs buying as a source of funds, etc.

5. FURTHER INVESTMENT CONCEPTS — A realistic look at all investment possibilities and what they may cost you. The risk and returns possible in all investments — marketability — timing — diversification — leverage — income taxes.

6. PLANNING YOUR INVESTMENT PORTFOLIO — How to plan your own portfolio for now and

the future using the information learned from previous lessons. Projecting your family money plan two years ahead — how to decide on your type of portfolio — your goals and how to achieve them.

7. SECURITIES — An in-depth study of stocks and bonds and how they may fit in with your investment plans. All aspects of securities management — how to obtain information and evaluate it — risks involved — potential profits — securities available — determining what are good opportunities.

8. COMMON STOCKS — A complete study of common stocks and how to evaluate them for your benefit. What you need to invest — market cycles — technical analysis of stocks — sources of information — the economy and the market — understanding government economic policy to forecast future profits.

9. MUTUAL FUNDS — A clear understanding of this type of investment, its advantages and limitations. Why you should consider mutual funds — sources of information — types of funds — tax facts — ways of buying and selling.

10. PREFERRED STOCKS, CONVERTIBLE PREFERRED, CONVERTIBLE DEBENTURES, WARRANTS AND RIGHTS — How each type can be used to advantage in your portfolio. Sources of information — what you need to know and why — evaluating and trading — dilution of earnings.

11. BONDS AND DEBENTURES — Know how debt securities differ from equity investments and why they should be considered. Why bonds? — evaluation of the right type of bonds for you — in-

formation sources — when to buy and sell — how to buy and sell — their place in your portfolio.

12. CHOOSING YOUR STOCKBROKER — Buying and obtaining good service from the salesman of a stock brokerage firm. What to expect from your broker — fees and conditions — complications, conflicts and how to handle them — other brokerage services — portfolio managers — government regulatory bodies — rules and regulations.

13. LIFE INSURANCE — A full explanation of life insurance in all its facets, and how to determine if you need it, and how much. How to read the fine print — how to deal with insurance agents on your terms — how it fits into your budget — insurance as an investment — borrowing on your policy.

14. MORTGAGES — The mortgage as a legal contract for investment, the profits and risks involved. Different types of mortgages — understanding mortgages — the basic mathematics — information sources — rights of the borrower and lender — who should invest — how to invest — mortgage evaluation.

15. REAL ESTATE — The advantages and disadvantages of investing in the various types of real estate, and how it can work for you. Land — the buying processes — regulations and by-laws — purchase comparisons — capital concepts — depreciation and taxation concepts — amortization — financing considerations — leverage — mortgaging out.

16. REAL ESTATE 2 — Income properties as a profitable part of your investment portfolio. Expected yield — operating costs — investment trusts — looking at homes, land development, speciality properties, the land development game.

7. **PENSION PLANS** — One of the last opportunities in tax-saving investments. Different plans available — selecting the right one — retirement and disability benefits — where to buy — information sources.

8. **TAXES** — Keeping your taxes to a minimum under the new tax laws. The many facets of income tax — how taxes affect your profits on investments — legal manoeuvres to maximize your after-tax income — gift and death taxes — capital gains taxes.

9. **FINANCIAL STATEMENTS** — Using actual financial statements to understand and analyze them. Statements, the barometer of health of a company — balance sheets — income statement — statement of retained earnings — interpreting key ratios — accounting methods — management quality.

10. **EVALUATING YOUR INVESTMENT PERFORMANCE AND TAKING CORRECTIVE ACTION** — How to keep on top of your investments and manage your portfolio efficiently. Awareness of changing goals — the technique of recording, reviewing and comparing — corrective action if needed — new formula plans.

The Complete Course Costs

\$150.00 including the registration fee of \$15.00. If you wish, payments may be made at the rate of \$25.00 per month for five months with a final payment of \$10.00. *There are no interest or carrying charges.*

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"Interesting and useful, it provides information that every Canadian family should have."

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DAVID M. COWAN, B. Comm., C.A. Mr. Cowan is now head of the business management training sector, Department of Manpower and Immigration, Government of Canada. He has developed over thirty business courses and co-ordinated the Coneducor Programme in Successful Investing and Money Management.

WAYNE F. CURRIE, B.Sc., M.B.A. Mr. Currie obtained his B.Sc. in management economics from Cornell University followed by his M.B.A. from The University of Western Ontario. He is president of the Pythagoras Group who are general financial consultants assisting professionals and executives on personal financial matters.

LOUIE M. NUSPL, M.B.A., C.A. A graduate of the University of Western Ontario and a chartered accountant, Mr. Nuspl is employed by the Pythagoras Group. Prior to this, he was employed as a chartered accountant by Touche, Ross and Company and by General Foods where he was a financial advisor in the fields of marketing and financial planning.

RUEBEN SCHAFER, C.L.U. Mr. Schafer is acknowledged as a leading authority on life insurance. The author of three books. Mr. Schafer is a resident of Toronto where he operates his own insurance agency.

G. TAYLOR GILBERT, B. Comm., C.A. Prof. Gilbert is a member of The American Accounting Association. He is also a contributor to "The Canadian Chartered Accountant". He is an Associate Professor of Commerce at the University of Toronto and a director of the summer school for Chartered Accountants, a member of the council and of the education committee of The Institute of Chartered Accountants of Ontario.

J. TIMOTHY PRITCHARD Formerly the managing editor of The Monetary Times, he is now the business editor of The Financial Times of Canada and a regular contributor to Executive Magazine.

JOHN G. DOHERTY, B. Comm., M.Sc. Mr. Doherty is the executive editor of The Financial Times of Canada. He has an extensive background as a financial writer and editor with The Wall Street Journal, Canadian Dow Jones and The Globe and Mail.

KENNETH H. THACKER, B. Comm., M.B.A. Mr. Thacker has been a director of administration and a financial consultant with Financial Parameters, a firm of investment consultants. Prior to that he was an analyst and in the mortgage department of Northern Life, a loan officer with the Industrial Development Bank and a reporter for Dun & Bradstreet.

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☐ Enclosed is my cheque (or Money Order) for \$15.00 (non-refundable) to cover the registration fee. As I continue the course please bill me at the rate of \$25.00 per month for five months with a final bill for \$10.00. There are no interest or carrying charges. If, at any time, I wish to discontinue the course, tuition fees are rebated for lessons not received.

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You may withdraw at any time and the balance owing will be refunded. You pay only for lessons received.

Ontario denturists try oral health certificates

Certificates of oral health, made available to patients dealing directly with members of the Denturist Society of Ontario, have been the object of a directive from the College of Physicians and Surgeons of Ontario. Many physicians were being asked by these patients to sign their certificates.

The College has now advised all physicians that certification of oral health and giving opinions with respect to a patient's fitness to receive a dental prosthesis are not part of the practice of medicine. Physicians, therefore, must not sign these certificates.

Ontario denturists had apparently hoped the certificates would ease the concern of the Ontario Ministry of Health about the denturists' ability to evaluate the health of a patient's mouth.

A spokesman for the Ontario Dental Association has stated that in the first 10 months of 1973, in excess of 7,000 patients had received full or partial dentures through the ODA's low cost service, provided by 10 clinics and 650 dentists working in their own offices. The service offers complete sets of dentures at \$180 each, rather than the scheduled rate of \$280.

Canadian Dental Nurses and Assistants' Association new slate of officers

At its annual meeting in Vancouver this fall, the Canadian Dental Nurses and Assistants Association elected the following slate of officers: President, Elizabeth Purchase, St. John's; Past President, Margaret Byers, Vancouver; Secretary, Eileen Suley, Gander; Treasurer and National Certification Chairman, Elaine Wesley, Lethbridge; First Vice-President, Elsie Gallop, Sarnia; Second Vice-President, Kerris Franklin, Edmonton; Archivist, Helen Wilkinson, Burlington; Magazine Editor, Laurie Masse, New Westminster; Publicity Chairman, Millie Thomson, Islington; Trophy Conventor, Alice Sellers, Winnipeg; and Insurance Chairman, June O'Brien, Vancouver.

U.S. Dental News

U.S. dental manpower study

The Board of Directors of the American Dental Association Health Foundation has selected the Leonard David Institute at the University of Pennsylvania to implement an extensive study of dental health manpower in the United States. The study will include an investigation of manpower supply, dental demand and productivity, as well as the future needs of dental education.

This is the first time that the ADA, acting on behalf of the private dental practitioner, has attempted to develop measuring devices, enabling the profes-

sion to project future needs more precisely. Initial funding for the study is \$200,000.

The Leonard Davis Institute of Health Economics proposed a multidisciplinary approach. It stated: "This proposal responds to the needs expressed by the American Dental Association for the development of a uniform reporting mechanism, and it presents a plan to develop and implement a system which will provide the information necessary for making dental care delivery system decisions at all operational levels."

U.S. programs for foreign dentists

The Brookdale Dental Center of the New York University College of Dentistry is offering foreign dentists two separate programs to prepare for the national board and state licensure examinations. One consists of three special area courses and the second is a one-year clinical course.

A lecture course covering National Board Dental Examinations Part I (physiology, anatomy, microbiology, pathology, histology, embryology, biochemistry and dental anatomy) will be given Monday through Thursdays at 6 P.M. beginning September, 1974.

A lecture course covering National Board Dental Examinations Part II (operative dentistry, removable prosthodontics, orthodontics, fixed prosthodontics, endodontics, paedodontics, oral pathology, radiology, oral surgery, periodontics and pharmacology) will be scheduled to precede the examinations. The course will be given on Tuesdays and Thursdays at 6 P.M.

A laboratory refresher course in operative dentistry and removable prosthodontics to correlate with state examinations will be given in both fall and spring semesters.

The one-year clinical course will begin at the Dental Center, 421 First

Ave., New York City, in September 1974. Enrolment is limited to 20 students.

The clinical course totals 610 hours during the academic year of 37 weeks and is designed to prepare and update foreign dentists for practice in the USA. The accepted applicants will receive comprehensive clinical training in subject areas included in the National Board Dental Examinations and the New York State clinical performance and laboratory devices examinations. Lectures on clinical subject areas will be supplemented by laboratory exercises and clinical performance on patients. Classes will be held on Mondays, Wednesdays and Fridays from 2:30 to 8:30 P.M.

Applicants must have passed or have evidence of being admitted to Part I of the National Board Dental Examinations and must have sufficient knowledge of the English language. The tuition of \$3,000 is payable in two installments. Students must provide books and instruments required.

Applications and additional information may be obtained from Dr. Zalmen A. Dunn, director of Foreign Dentist Training Program, Brookdale Dental Centre of NYU, 421 First Ave., New York, N.Y. 10010.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on December 31, 1973:

Guaranteed Fund \$10.592;
Fixed Income Fund \$14.213;
Common Stock Fund \$29.869.

Total assets (market value) of the plan were \$16,718,525.04.

The following portfolio purchases and sales occurred during the preceding month: bought \$150,000 Royal Trust Company GIR; \$200,000 Ford Motor Credit Co. note; 1,500 shares American Express; 5,200 shares Canadian Pacific Investment; \$700,000 Aluminum Company of Canada note. Sold: 25,200 shares Markborough Properties Ltd.; 5,000 shares Jim Walter Corp.; \$500,000 Ford Motor Credit Co. note.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto, Ont. M5R 2P1.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au Décembre 31, 1973:

Fonds avec garantie \$10.592;
Fonds à revenu fixe \$14.213;
Fonds d'actions ordinaires \$29.869.

L'avoir total (valeur marchande) du régime se montait à \$16,718,525.04.

Au cours du mois précédent, les transactions ont été les suivantes: achat \$150,000 Royal Trust Company GIR; \$200,000 Ford Motor Credit Co. note; 1,500 actions American Express; 5,200 actions Canadian Pacific Investment; \$700,000 Aluminum Company of Canada note. Vente 25,200 actions Markborough Properties Ltd.; 5,000 actions Jim Walter Corp.; \$500,000 Ford Motor Credit Co. note.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto, Ont. M5R 2P1.

In Memoriam



John H. Hibberd, MDSc, DDS,
BDS, FRACDS

Internationally known and admired as a dental practitioner and educator, Dr. John Hunt Hibberd died suddenly, at his home in Toronto, December 22.

Born in Australia and educated there as well as in Canada, the United States, England, Sweden and West Germany, Dr. Hibberd moved with his family to Toronto in 1967, accepting an invitation to form a new department of Restorative Dentistry at the Faculty of Dentistry, University of Toronto.

During the last six years, he has developed new undergraduate programs in crown and bridge and operative dentistry, and has conducted graduate training in these fields within the School of Graduate Studies.

During the past year, he conducted two short courses in Toronto and a three-day course at New York City, as well as being a guest lecturer to graduate students at Northwestern University. His current research projects included an investigation of mercury absorption by dental personnel in Ontario; an in vivo and in vitro investigation of micro fractures of tooth structure resulting from the use of auxiliary pin retention; the influence of proximal tooth contours on the form of interproximal tissues of a monkey; and a clinical and histological study of a temporary restorative material (Scutan) on a monkey.

Dr. Hibberd is survived by his wife, Joan, and eight children.

With his dynamic and challenging personality, wealth of information and his endless search for perfection, John Hibberd was an excellent leader among his confreres.

Deaths

Bradley, Harry Melville. 74. Leamington, Ont. Royal College of Dental Surgeons of Ontario, 1923. 25-12-73. Survived by Jean (wife); Mrs. Joan Baird and Mrs. Ann Rose (daughters).

Butler, John Arthur. 76. Toronto. Royal College of Dental Surgeons of Ontario, 1921. 4-12-73. Survived by Mrs. Edna Harris (sister).

Crouch, Stanley Stuart. 81. Toronto. Royal College of Dental Surgeons of Ontario, 1919. 17-12-73. Survived by Mabel (wife); Dr. J. Thomas and Dr. Stuart M. (sons); Mrs. Mary Denton (daughter).

Falconer, Robert L. 76. Fort Macleod, Alta. Royal College of Dental Surgeons of Ontario, 1925. 10-12-73.

Hardy, George Howard. 64. London, Ont. Previously of Thunder Bay, Ont. University of Toronto, 1934. 29-3-73.

Herron, Vernon Alexander. 51. Toronto. University of Toronto, 1950. 9-12-73. Survived by Susan (wife); Timothy, Marci and Lindsay (children).

Hibberd, John Hunt. 46. Toronto. University of Melbourne, 1949. 22-12-73. Survived by Joan (wife); Peter, Michael, Graeme, Jennifer, John, Christopher, Catherine and Robert (children).

Hopper, Anson Duncan. 83. Truro, N.S. Dalhousie University, 1913. 4-5-73. Survived by Betty (wife); Douglas (son).

MacLeod, George Cameron. 67. Halifax, N.S. Dalhousie University, 1930. 21-12-73. Survived by Greta (wife).

Steed, Hamilton Graeme. 58. Nelson, B.C. University of Alberta, 1941. 6-12-73. Survived by Rhoda (wife); George, Robert, Bill and Tom (sons).

Watson, Thomas Alexander. 72. Lucan, Ont. University of Toronto, 1927. 16-9-73.

Werry, Samuel George. 58. Oshawa, Ontario. University of Toronto, 1942. 9-12-73. Survived by Jean (wife); Donald and James (sons); Mrs. Carolyn Sinclair (daughter).



INDICATIONS: Carbocaine (brand of mepivacaine) is indicated for the production of local anesthesia for dental procedures by infiltration injection or nerve block.

CONTRAINDICATIONS: Carbocaine is contraindicated in patients with a known hypersensitivity to the amide type local anesthetics or to methylparaben which is added to the multiple dose vial solutions.

WARNINGS: RESUSCITATIVE EQUIPMENT AND DRUGS SHOULD BE IMMEDIATELY AVAILABLE WHEN ANY LOCAL ANESTHETIC IS USED.

Usage in Pregnancy: Safe use of Carbocaine has not been established with respect to adverse effects on fetal development. Careful consideration should be given to this fact before administration during pregnancy.

Solutions containing a vasoconstrictor, particularly epinephrine or norepinephrine, should be used with extreme caution in patients receiving antidepressants of the triptyline or imipramine types or MAO inhibitors

because a severe prolonged hypertension may occur.

PRECAUTIONS: The safety and effectiveness of Carbocaine depend upon proper dosage, correct technique, adequate precautions, and readiness for emergencies.

The lowest dose that results in effective anesthesia should be used to avoid high plasma levels and serious undesirable systemic side effects. Injection of repeated doses of Carbocaine may cause significant increases in blood levels with each repeated dose due to slow accumulation of the drug or its metabolites, or due to slow metabolic degradation.

Tolerance varies with the status of the patient. Debilitated, elderly patients, acutely ill patients, and children should be given reduced doses commensurate with their age and physical status.

Solutions containing a vasoconstrictor should be used cautiously in the presence of diseases which may adversely affect the patient's cardiovascular system. In persons

with known drug sensitivities or allergies Carbocaine should be used cautiously.

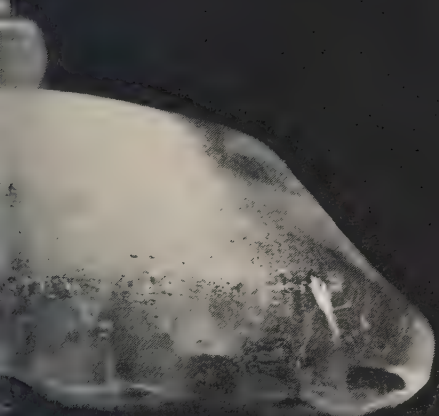
Serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients prior to or following the administration of chloroform, cyclopropane, trichloroethylene, or other related anesthetics.

ADVERSE REACTIONS: Adverse reactions result from high plasma levels due to excessive dosage, rapid absorption, or inadvertent intravascular injection. Hypersensitivity, idiosyncrasy, or diminished tolerance may also be cause of reactions. Reactions due to overdosage (high plasma levels) are systemic and involve the cardiovascular system and the cardiovascular system.

Reactions involving the central nervous system are characterized by excitation and/or depression, nervousness, dizziness, blurred vision, or tremors, may be followed by drowsiness, convulsions, unconsciousness, and possibly respiratory arrest.

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the thaw take so
much longer?



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2. The modern local anesthetic solution—Carbocaine 3%—provides unsurpassed anesthesia that allows ample time for routine procedures, an average of 20 minutes *operating* anesthesia in the upper jaw and 40 minutes in the lower, but doesn't linger a great deal longer than necessary.

Carbocaine 3% adds this important dimension to patient comfort because it is fully effective by itself, without any help from a vasoconstrictor.

For longer duration, Carbocaine HCl 2% is combined with Neo-Cobefrin* (brand of levonordefrin) 1:20,000, a vasoconstrictor more stable than epinephrine and less potent in raising blood pressure.

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Carbocaine[®] HCl 3%
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without vasoconstrictor

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adequately effective by itself**

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ctions involving the cardiovascular system include
tion of the myocardium, hypotension, bradycardia,
en cardiac arrest. Treatment of a patient with toxic
estations consists of maintaining an airway and
ing ventilation using oxygen, and assisted, or
led respiration as required. Supportive therapy of
rdiovascular system consists of using vasopressors,
ably epinephrine. Convulsions may be controlled by
e of oxygen. If convulsions persist, the intravenous
stration in small increments of an ultra short-acting
urate (i.e., thiopental, thiamylal) may be used. If these
available, a short-acting barbiturate (secobarbital,
arbital) may be used. Intravenous barbiturates
only be used by those familiar with their use
gic reactions are characterized by cutaneous
of delayed onset, or urticaria, edema, and other
estations of allergy. The detection of sensitivity by
esting is of doubtful value.

DOSAGE AND ADMINISTRATION: As with all local anes-
thetics the dose varies and depends upon the area to be
anesthetized, vascularity of the tissues, individual toler-
ance and the technique of anesthesia. The lowest dose
needed to provide effective anesthesia should be admin-
istered. For specific techniques and procedures refer to
standard dental manuals and textbooks.

For infiltration and block injections in the upper or
lower jaw the average dose of 1 cartridge will usually
suffice. Each cartridge contains 1.8 ml. (36 mg. of 2% or
54 mg. of 3%). This dose may be doubled if necessary
to effect anesthesia. The maximum dose should not exceed
3.6 mg. per pound of body weight.

Any unused portion of a cartridge should be discarded.
HOW SUPPLIED: Carbocaine (brand of mepivacaine) HCl
3% without vasoconstrictor—each ml. contains: Carbo-
caine HCl, 30.0 mg.; sodium chloride 3.0 mg.; and water
for injection. Methylparaben 1.0 mg. is added to the

solution and pH is adjusted with sodium hydroxide or
hydrochloric acid in multiple dose vials.

Carbocaine HCl 2% with Neo-Cobefrin (brand of levo-
nordefrin) 1:20,000—each ml. contains: Carbocaine HCl
20.0 mg.; Neo-Cobefrin, 0.05 mg.; sodium chloride 4.0
mg.; acetone sodium bisulfite, not more than 2.0 mg.;
and water for injection. Methylparaben 1.0 mg. and sodium
lactate 1.0 mg. are added to the solution and the pH is
adjusted with sodium hydroxide or hydrochloric acid in
multiple dose vials.

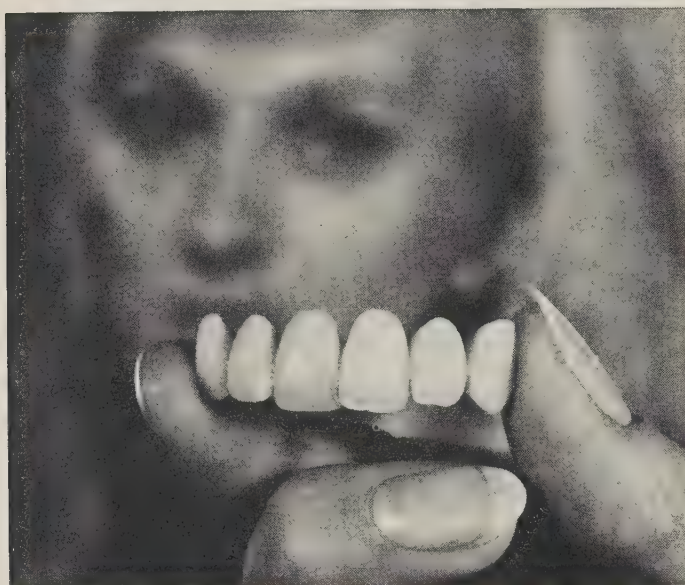
Both formulas are available in 1.8 ml. cartridges, cans of
50, to fit the Carpule[®] Aspirator; and in 50 ml. multiple dose
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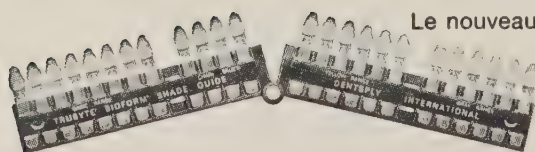
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L'Association

Congrès d'étudiants dentaires couronné de succès

Les étudiants en médecine dentaire qui assistaient au cinquième Congrès d'étudiants dentaires à Montréal ont votés en faveur d'une plus grande participation de l'organisation ADC dans leurs écoles. A l'avenir, on recommande que les représentants entrent en fonction de délégués au Congrès un an plus tôt. Les étudiants de quatrième année feront fonction de délégués sortants. Participation des étudiants à l'ADC est de plus de 85 pour cent à l'Université de Western Ontario et de 75 pour cent à l'Université de Toronto. Des autres facultés dentaires finissent de l'arrière.

Voici ceux qui ont été élus au Congrès: Tricia Courtwright, UWO, présidente du sixième Congrès; Terry MacKay, UBC, délégué au Conseil des gouverneurs de l'ADC et au Bureau d'examen dentaire; Tom Larder, Dalhousie, délégué au Cercle des auxiliaires dentaires de Banff; et Aron Gonshor, McGill, représentant au Conseil d'éducation de l'ADC.

Une hygiéniste au Bureau de rédaction de programme de cassettes

Madame Joan S. Voris est entrée récemment au service du Bureau de rédaction du programme de cassettes à rubans magnétiques de l'Association dentaire canadienne. Ces cassettes sont utilisées à des fins d'éducation permanente. Madame Voris est présentement superviseur du programme d'hygiène dentaire à la Faculté de dentisterie de l'Université de Colombie-Britannique.

Le Conseil des gouverneurs appuie les demandes réclamant des standards nationaux

Le Conseil des gouverneurs de l'ADC appuie fortement les demandes réclamant l'existence de standards et de spécifications nationaux concernant les matériaux et les appareils dentaires.

Le Conseil a exhorté le Comité des standards des appareils et des matériaux dentaires de l'Association de mettre sur pied un projet pilote, en collaboration avec les organismes publics appropriés, afin de démontrer la valeur d'un service d'essai.

Programmes autorisés

Le Conseil de l'éducation de l'Association dentaire canadienne a procédé récemment à l'évaluation des programmes d'assistant-dentaire (D Clin A) et l'hygiéniste dentaire de l'Armée canadienne. Les deux programmes ont été dûment approuvés et autorisés.

Le Canada

Une enquête nationale révèle les principaux problèmes nutritifs

L'honorable Marc Lalonde, ministre de la Santé nationale et du Bien-être social, a rendu public récemment le premier rapport de l'enquête nationale effectuée par Nutrition-Canada. Les révélations principales en sont les suivantes:

- une forte proportion des adultes canadiens souffrent d'obésité;
- un grand nombre de canadiens de tous âges accuse une déficience évidente de fer;
- certaines femmes enceintes et certains enfants souffrent de déficiences protéiniques évidentes;
- les régimes alimentaires de plusieurs nourrissons de plusieurs enfants et adolescents accusent une carence de calcium et de vitamine D évidentes;
- les Esquimaux et à un degré moindre les Indiens, souffrent de déficience évidente de vitamine C.

En plus de révéler les problèmes nutritifs nationaux majeurs le rapport suggère sept priorités sur lesquelles le gouvernement et les groupements intéressés devraient baser leur action future. Ces priorités comportent:

- la consolidation du rôle de contrôle exercé par l'Etat afin d'assurer que les approvisionnements alimentaires canadiens soient conformes aux exigences de la nutrition.
- le développement de programmes efficaces, mis en oeuvre par l'Etat et l'industrie, afin d'informer et de motiver le public canadien de la valeur de la nutrition;
- l'importance justifiée que l'on doit accorder à la nutrition dans les programmes éducatifs concernant les problèmes inquiétants que posent certains secteurs vulnérables de la population;
- l'importance que doit prendre pour l'individu la responsabilité d'adopter un comportement alimentaire sain;
- axer la formation des professionnels de la santé sur les besoins nutritifs de la société;
- la mise en oeuvre de systèmes susceptibles de contrôler et de surveiller la santé nutritive des canadiens.

Octroi d'une subvention

Le docteur Makoto Suzuki de la section de dentisterie opératoire de l'Université de Western Ontario vient de recevoir une subvention de \$20,000 que lui a remis le Ministère de la santé de l'Ontario afin d'étudier la valeur des nouveaux matériaux disponibles à des fins de dentisterie restauratrice.

Le Bureau national de la recherche de mécanismes d'équivalences à l'intention des spécialistes

Le Bureau national d'examen dentaire du Canada tente actuellement d'obtenir une loi dont l'existence fournirait les mécanismes requis pour accorder des équivalences aux spécialistes dentaires. Les bénéfices de cette réalisation pourraient aussi s'étendre aux hygiénistes dentaires, aux assistantes dentaires et aux autres auxiliaires dentaires dont les fonctions sont déjà reconnues par l'Association dentaire canadienne.

Etude de la valeur de la soie dentaire

Une étude de deux années destinée à évaluer la soie dentaire comme moyen de réduire la carie est actuellement poursuivie par une équipe de chercheurs, à la Faculté de dentisterie de l'Université de Western Ontario.

Le docteur Gerald Z. Wright, professeur adjoint de dentisterie pédiatrique, dirigera les travaux, financés par une subvention de \$12,000 du Ministère de la Santé et du Bien-Etre social. Font aussi partie de l'équipe, le docteur David Banting et le docteur W. H. Feasby, président de la section de dentisterie pédiatrique de l'Université.

Le programme comprend plus de 50 élèves de première année des écoles publiques et séparées de la région de Dorchester dans l'Ontario. Trois aides féminines de la région ont déjà été engagées par l'Université, en qualité d'assistantes de recherche, après avoir reçu un entraînement spécial pour l'utilisation de la soie dentaire. Considérant que les élèves de première

année ne possèdent pas la dextérité manuelle requise pour utiliser correctement la soie dentaire, de leur propre chef, ces assistantes effectueront le traitement à chaque enfant, quotidiennement, cinq jours par semaine.

Le docteur Wright croit que l'évaluation des mérites de la soie dentaire, comme moyen de réduire la carie, constituera un progrès important dans le domaine de la dentisterie préventive, à une période où l'on accorde une priorité marquée aux soins dentaires gratuits chez les enfants d'âge scolaire.

Services dentaires de l'Armée Canadienne



Colonel D.H. Protheroe

Promus colonels

Le lieutenant-colonel D. H. Protheroe a été promu colonel. Diplômé de la Faculté de dentisterie de l'Université de l'Alberta, le colonel Protheroe détient aussi un MPH de l'Université du Michigan. Le colonel Protheroe a occupé divers postes au Canada et en Europe ainsi que des fonctions à la Direction des services dentaires et à l'Ecole des services dentaires à Halifax.

Le lieutenant-colonel L.A. Richardson a aussi été promu colonel. Diplômé de la Faculté de dentisterie de l'Université de l'Alberta, il a servi dans l'armée canadienne au Canada et en Europe.



Colonel L.A. Richardson

Promus lieutenants-colonels

Les officiers dentaires suivants ont été récemment promus lieutenants-colonels: J. J. B. Houde, CFB de Halifax; I. A. C. MacDonald, CFB à Cornwallis; C. L. Gullekson, CFB Trenton; et P. R. McQueen, CFB de Borden.

Formation post-doctorale

Le lieutenant-colonel J. J. B. Houde a reçu un diplôme d'hygiène dentaire publique après une année de cours à l'Université de Toronto. Diplômé dentaire à l'Université de Montréal en 1960, il occupe un poste à Halifax.

Le major G. H. J. Pinsonneault a terminé un programme post-doctoral de deux années en orthodontie à l'Université de Toronto. Diplômé de la Faculté de dentisterie de l'Université de Montréal en 1967, le major Pinsonneault occupe un poste au CFB de Cold Lake, en Alberta.

Le major V. J. Lanctis a terminé un cours de l'Armée canadienne d'une année à Toronto. Diplômé de l'Université de Montréal en 1966, avec la titre de DDS, il est actuellement chargé d'un poste administratif aux Quartiers généraux de la défense à Ottawa.

Retraites

Les officiers supérieurs des services dentaires de l'Armée canadienne suivants ont récemment pris leur retraite: le colonel J.W. Turner, le colonel G.R. Covey, le lieutenant-colonel T.D. Cobb, le lieutenant-colonel W. W. Anglin.

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Nouvelles internationales

Les poussières provenant des forêts dentaires pourraient constituer un danger pour la santé

Un projet de recherche unique, actuellement en cours, étudiera les risques éventuels que présentent pour les dentistes et leurs patients les fines particules de poussières, provenant des forêts à coupe rapide, qui peuvent être aspirées dans les poumons et y causer des lésions.

Le projet est réalisé par le docteur Iraj Delfani qui bénéficie d'une bourse de post-résidence octroyée par la Chicago Lung Association de Chicago ainsi que par le docteur James Kenny.

Fréquemment, après l'usage de forêts, les lunettes portées par le dentiste sont voilées par l'accumulation de poussières. Le docteur Kenny s'intéressa tout d'abord au fait que ces poussières pouvaient constituer un problème dans les poumons après avoir constaté que deux patients avaient souffert de pneumonie immédiatement après un ajustage dentaire.

Les chercheurs évalueront les dimensions des particules de poussières provenant des forêts dentaires. Ils détermineront par la suite si les particules sont assez fines pour atteindre la région inférieure des voies respiratoires sans avoir été préalablement filtrées. Dans l'occurrence où elles sont assez fines, des études seront poursuivies sur des souris de laboratoire, afin d'établir dans quelle mesure ces dernières peuvent subir l'exposition aux poussières des forêts à coupe rapide.

Précautions recommandées pour l'application de l'acupuncture

L'Association dentaire américaine réclame un effort concentré de recherches dans le domaine de l'application de l'acupuncture en dentisterie, tout en mettant les dentistes en garde contre l'utilisation prématurée et sans discernement de ce procédé expérimental, tant que de plus amples

analyses scientifiques n'auront pas déterminé l'efficacité et la sûreté de ses effets.

Le Conseil des recherches de l'ADA déclare que "les indications et les contre-indications se rapportant à son usage n'ont pas encore été parfaitement définies. Il en est de même des dangers et des risques inhérents que cette technique présente pour le patient. De plus, les aspects physiologiques et psychologiques du phénomène, que les études scientifiques sont susceptibles de révéler, n'ont pas encore été élucidées."

En conséquence, les recommandations du Conseil concernant les avantages éventuels de l'acupuncture comporte aussi la directive réclamant la nécessité d'un contrôle scientifique de haute qualité pour en déterminer le bien-fondé le plus tôt possible.

L'activité accrue des denturologistes fait l'objet d'une réunion sur les relations publiques

L'activité accrue, en Amérique du Nord, des soi-disants denturologistes a fait l'objet d'un examen élaboré par les Américains et les Canadiens réunis à la huitième Conférence nationale sur les relations publiques dentaires, les 6 et 7 août derniers, au siège social de l'Association dentaire américaine à Chicago.

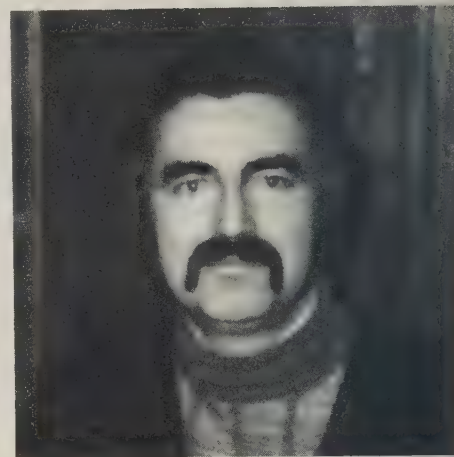
Monsieur Ray Argyle, directeur des relations publiques de l'Association dentaire de l'Ontario exposa aux délégués l'expérience canadienne concernant la pratique illégale dans le domaine des prothèses. Notons que six des dix provinces canadiennes ont légalisé ces services d'une manière ou d'une autre.

Pour prévenir l'avènement du "denturisme" dans un état, a suggéré monsieur Argyle, la profession organisée doit prendre certaines mesures qui consistent à tenir les législateurs bien informés sur les empiètements illégaux de personnel non compétent et non autorisé, en s'attachant à bien faire comprendre aux législateurs les dangers que présentent ces pratiques pour la santé.

Il suggéra aussi, comme mesure essentielle, que certains média d'information les plus influents de la région exercent une vigilance avertie. "Si vous

attendez que ces média soient approchés par les denturologistes, vous pouvez être assurés que ces derniers leur auront vendu leur marchandise. La situation deviendra confuse et il vous sera alors difficile de rectifier les opinions."

Organisations dentaires



Dr. R.S. Margolis

L'Académie de pédodontie canadienne choisit ses nouveaux électeurs

Le docteur Margolis d'Edmonton a été élu président de l'Académie canadienne de pédodontie. Les autres directeurs élus pour le terme 1973-74 sont les docteurs Beverly Richardson, de Kitchener, président désigné, et Franklin Pulver, de Toronto, secrétaire-trésorier.

Administrateurs du Bureau d'examen dentaire

Le groupe d'officiers suivants a été désigné lors de la réunion annuelle du Bureau national d'examen dentaire du Canada: les docteurs B. Proctor, président; James D. Purves, ex-président; J. M. Calvert, vice-président; Norman Layton et Roger Coulombe, administrateur. De plus, le docteur G. Kravis, d'Ottawa, a été nommé secrétaire-archiviste à temps partiel.

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DENTAL APPOINTMENT WITH THE SCEPTICAL AYMARÁS OF BOLIVIA

By Robert Echlin, DDS
as told to Diane Charter,
Special Feature Editor

The "clínica" gets down to business under the watchful eyes of the Aymaras.

The YMCA would seem to be a rather unusual channel through which a Canadian dentist could expand his knowledge of dentistry in other countries. Yet, for Dr. Robert Echlin, a dentist from Burlington, Ontario, the activities of the Canadian YMCA provided an opportunity to spend a day working with a medical and dental team in the mountains of Bolivia.

For some time now the National Council of the Canadian YMCA and officials of the Latin American Confederation of YMCA's have been working hard to develop an effective, co-operative relationship. To further this objective, representatives of the two organizations arranged for a Development Conference to be held in La Paz, Bolivia, in October, 1973. The Conference was supported by the Canadian International Development Agency (CIDA).

Dr. Echlin was invited to attend the conference as a lay representative of the Hamilton YMCA and as an observer for the Canadian Dental Association. The 15 Canadian delegates, from Saskatchewan, Manitoba and Ontario, also included John M. Magwood, Q.C., President of the Canadian Council on International Co-operation, and Gordon S. Ramsey, Director of International Affairs for the National Council of YMCA's in Canada.

The Conference itself was rated highly successful. Areas of need were clearly identified and the Canadian delegates returned home enthusiastic in their desire to meet the needs of their Latin American neighbours.



Dental Care for the Aymará Indians

While at the Conference Dr. Echlin met Pedro I.W. Tichauer, a businessman and a board member of the YMCA in La Paz. Mr. Tichauer introduced Dr. Echlin to his mother, Dr. Ruth W. de Tichauer, a medical doctor, who in turn introduced him to Dr. Esperanza Aid, a dentist. These two women, both of whom have busy practices in the city of La Paz, have for the past 15 years volunteered their professional services each Sunday to the Aymará Indians living in scattered villages on the "Altiplano", the high plateau outside the city. Dr. Echlin was invited to join Drs. Tichauer and Aid at their village clinic on the following Sunday. He accepted and his description of the experience follows:

"The soil-poor, rocky acres of the Altiplano is very unsatisfactory as farm land. Nevertheless, the Indians do work the land and produce small crops in their stone-fenced fields.

"The Indian villages consist of groups of adobe buildings and the one we visited had a large central court (approximately 500 feet long by 500 wide) ringed with small adobe homes. In the centre of the court was an open stage or bandstand generally used for entertainment purposes.

"As we prepared to set up the clinic Dr. Tichauer explained to me that the Aymará Indians are a very shy people. They are also very sceptical. And with good reason. Many times they are promised visits by government people such as teachers



Dr. Echlin and his first Indian patient.

View from the hotel in the heart of La Paz.





Stoic patient receives his immunization from Dr. Tichauer's Indian assistant.

Entrance to private office of Dr. Paul Cortez Coca on busy La Paz street.

or farm advisers which never materialize. So, although Dr. Tichauer and Dr. Aid were invited by the village elders, the people have no reason to believe they will actually show up.

"The clinic is set up in the courtyard with a ring of benches placed in front of a large table. Dr. Aid, the dentist, has a straight-back chair with a head rest and it too is placed closed to the table where Dr. Tichauer will work. This arrangement is designed to win the confidence of the people by allowing everyone to watch what is going on in relative comfort.

"Gradually, a group of interested spectators gather and sit on the benches to watch. The brave come forward to be examined or to have a tooth removed. Within an hour a hundred or more people are assembled and completely engrossed in the activities of the doctor and dentists.

"The patients of course will not show pain under these circumstances. And, just as the patient must put forth his best effort, so must the dentist. Never have I performed before such a large, attentive audience, particularly one made up of so many mothers nursing their babies.

Treatment necessarily limited

"Dr. Tichauer can only carry out 'required' procedures in this situation; immunization and treatment of obvious illnesses. By the same token, Dr. Aid can only practise "required" dentistry — relief of pain through extraction. What else can be done under such circumstances?

"Dr. Tichauer has trained an Indian assistant to give injections and this man has developed a technique which, although unorthodox, is certainly efficient. With one hand he picks up the syringe and with the other the bottle of injectable solution. Expertly he tears off the metal cover by placing it between his teeth and plunges the syringe through the cap and from there into the arm of the patient. I suspect most of his patients never knew what hit them!

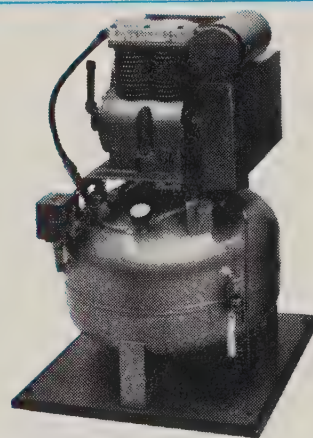
"Once the people overcome their shyness they are very warm and friendly. After we had been working for a while, an older gentleman approached me with a glass tumbler and a tall bottle of doubtful age and content. He poured a drink and offered it to me. Now I must mention here that during our stay in Bolivia our Canadian contingent had been very careful to avoid drinking the water, especially after seeing one of our party desperately ill. This was foremost in my mind as the old man held the drink out to me, but what could I do? I accepted it, nodded a thank you, crossed my fingers and drank it. Fortunately, there were no repercussions.

Continued page 122

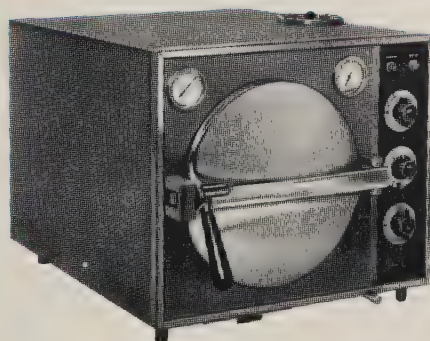
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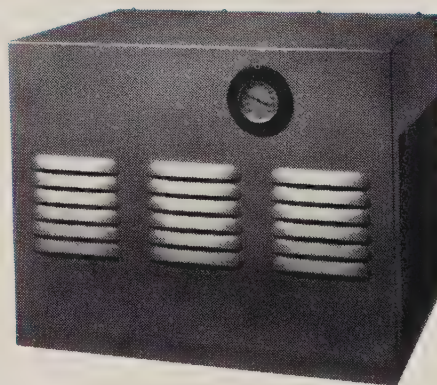
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Teeth in good condition

"Generally, the condition of the teeth of the Aymará Indians was good. Decayed teeth did not appear until after the age of 30. The arch size was large and most patients had third molars well erupted. Although there was evidence of periodontal disease, it was certainly not rampant. Dr. Aid commented that the dental health of the people in this particular village was better than most. Perhaps its remote location was a contributing factor.

"One of the major problems we had to cope with during our stay in Bolivia was altitude sickness. La Paz is situated at 13,000 feet and the lack of oxygen, resulting in severe headaches in the mornings and an overall weakness of muscles, affected our entire party."

Private Practice in Bolivia

"I had the opportunity to visit the private practice of a dentist in La Paz, Dr. Paul Cortez Coca. Since he spoke only Spanish and I speak none, we had to converse through an interpreter, Sister Rita of the Order of Notre Dame.

"In Bolivia a dentist must work for the Government for one year before he is allowed to open a private practice. This man had just opened his own office and very proudly showed me around.

"The techniques of restorative dentistry appear to fall behind North American standards, but I feel that this could be due to lack of laboratory services. The 'dentista' in La Paz must do his own.

"Dr. Coca showed me models illustrating many complicated procedures which, I am sure, in his hands gave excellent results. He was most anxious to have North American publications. He indicated that very little original work is published in Spanish and that translations are not readily available."

Dr. Echlin feels that the future holds promise for those who believe in international co-operation and he is optimistic that an opportunity may well develop for Canadian dentists to assist their confreres below the equator. He is interested in corresponding with dentists who may have had experiences similar to his in Bolivia or who would be interested in such a venture in the future. Write to: Dr. Robert Echlin, 992 Birchwood Avenue, Burlington, Ontario.

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TIMES MIRROR

A comparison of monopolar and bipolar pulp-testing

A.G. Hannam, BDS, PhD, FDS, RCS, FRACDS
W. Siu, DMD
J. Tom, BSc
Vancouver

The authors compare the conventional monopolar method of electrically stimulating the dental pulp, and a method involving the use of two coronally placed electrodes. The current required for threshold stimulation is the same in each case and the sensations reported by the subjects are similar. However, the bipolar technique seems to be relatively independent of electrode placement whereas the monopolar method is not. Since the essential value of bipolar stimulation is that the stimulus is confined to the pulpal nerves, this may be a more desirable method of testing than the one commonly used at present.

Les auteurs de cette étude comparent la méthode monopolaire conventionnelle de stimuler électriquement la pulpe dentaire avec la méthode comportant l'application de deux électrodes sur la partie coronaire. L'amplitude courante requise pour atteindre le seuil de la stimulation se révèle identique dans les deux cas, et les sensations signalées par les sujets sont aussi les mêmes. Toutefois, la technique bipolaire semble relativement indépendante de l'emplacement choisi pour appliquer l'électrode alors que cette particularité ne s'applique pas à la méthode monopolaire. Considérant que la valeur essentielle de la stimulation bipolaire consiste à limiter le stimulus aux nerfs de la pulpe, cette méthode apparaît préférable à celle que l'on utilise couramment à l'heure actuelle.

Traditionally, the value of electrical pulp-testing as a method for determining the vitality of teeth is accepted with reservation by most clinicians. Many feel that the method is not reliable in that nonvital teeth occasionally give positive responses, and vice versa. Moreover, the limitation of the technique to teeth that are not heavily restored excludes a large sample for which just such a test is needed. To a certain extent this impression of unreliability is supported by available evidence, or rather lack of it, since there appears to be no study that has so far been able to associate the response of a patient with known pulpal pathology. However, it is equally true that most users of pulp-testers have only a vague understanding of the basis of the test and, perhaps more important, generally use inadequate instruments in an incorrect fashion.

The conditions affecting the electrical stimulation of human teeth have been reviewed by Mumford and Bjorn.¹ The passage of current through dental tissues, and the likely zones of excitation of pulpal nerve fibres, have been studied extensively²⁻⁴ and information is available describing the innervation of the teeth, and the sensory phenomena that arise as a result of its stimulation.^{5,6}

The conventional method of stimulation has in the past consisted of the application of a single electrode to the tooth crown. In this technique the other electrode necessary for completion of the circuit is held in the patient's hand or by the operator, who must then make electrical contact with

the patient in some way. Studies have suggested that current flow in such a case passes through the underlying enamel and dentine, the entire pulp canal, and the apex of the root.² As a result of this work, it has been suggested that the two areas most likely to be stimulated are the region of the pulpodentinal junction subjacent to the electrode placed on the crown and the apical region of the root canal.⁴ On the other hand, others⁷ have proposed that all the current does not flow through the apex of the tooth and, if this is so, there may be other areas of increased current density that we know nothing of. Animal experiments have shown that even under carefully controlled conditions of monopolar stimulation, the range of stimulus strengths needed to excite all the pulpal nerve fibres overlaps to a certain extent the strengths sufficient to excite fibres in the periodontal tissues.^{8,9}

For reasons such as these, several workers have suggested that it might be better to stimulate teeth in a bipolar fashion by means of one labially and one lingually placed electrode, in an attempt to limit current flow to the coronal tissues.^{2,8,9} There is, for example, some evidence that the current path in this situation does limit itself to the crown of the tooth.³

In the work to be reported we have compared the use of a controlled bipolar method. The purpose of the study was to determine whether the method was practical and at least as accurate in indicating pulp vitality as other methods presently in use. We felt that this was important to discover before proceeding to a separate study of its value as a means of diagnosing pulpal pathology.

Methodology

The experiments were carried out on the upper central incisors of 30 young adult subjects. Only unrestored or minimally restored vital teeth were included in the study. Distinction was later made between the results obtained from these two groups. Stimuli were applied to the teeth between the electrodes of a bipolar assembly held in positive contact with the labial and lingual enamel of the tooth crown by a spring-loaded applicator, or between the labial electrode of this assembly and a hand-held bar electrode (Fig 1). In both cases, the labial electrode was the cathode. It was therefore possible to employ bipolar or monopolar techniques under otherwise identical conditions.

There are special problems to be overcome when applying and measuring electrical stimuli to the teeth. Briefly, the high and variable impedance of dental enamel not only makes it necessary to employ high voltages in order to permit the passage

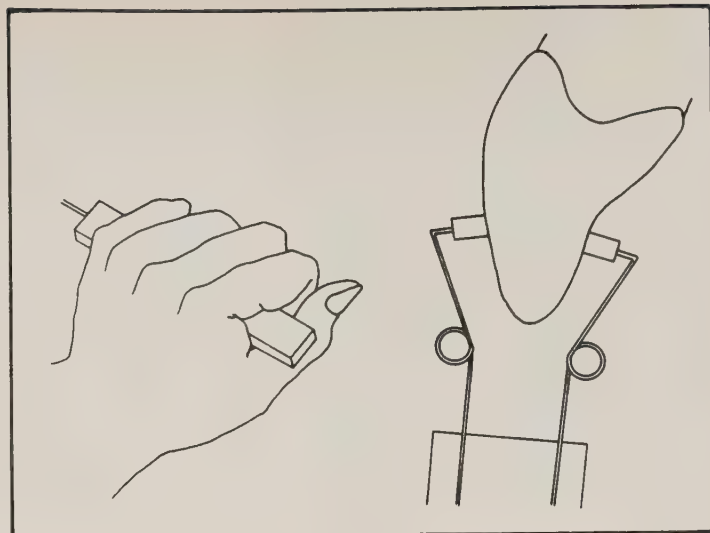


Fig 1 Diagrammatic representation of the alternative stimulating arrangements possible. The cathodal electrode was always placed on the labial surface of the tooth. The anode could be either the lingually placed electrode or the hand-held electrode shown at left.

of enough current to cause stimulation, but also makes it essential to monitor the value of the current as an accurate measure of stimulus strength. Marked differences in tissue impedance which can occur alter the amount of current flowing (the actual stimulus to the nerve fibres), and therefore make voltage measurements a highly inaccurate means of assessing stimulus strength. The high impedance of dental tissues also creates a problem in measuring the current flow with an instrument like an oscilloscope, which normally has an input impedance of the order of 2-10 M Ω only. Special care must therefore be taken when these instruments are used as the monitoring device. The fact that high voltages are used makes it essential to safeguard the patient against any possible short-circuiting of the electrodes, and for this reason some form of current limiting device should be included in the stimulator. Finally, the duration, shape and frequency of the electrical pulses as well as the area of contact of the electrodes all have effects upon the thresholds of teeth to electrical stimulation.

In this study we used the combined output of four isolated physiological stimulators (Grass, model S6) arranged with minor peripheral circuitry as shown in Figure 2 in order to produce a system that satisfied our requirements. By this means it was possible to deliver 1 msec duration square-wave monophasic pulses at a frequency of 50 per second, at voltages up to 400 V and with a current limitation of 200 μ A. Current flow through the tooth at threshold was monitored by measuring the voltage drop across 1 M Ω series resistor using a conventional differential amplifier and oscilloscope (Tektronix 3A9 and 564B, respectively). The

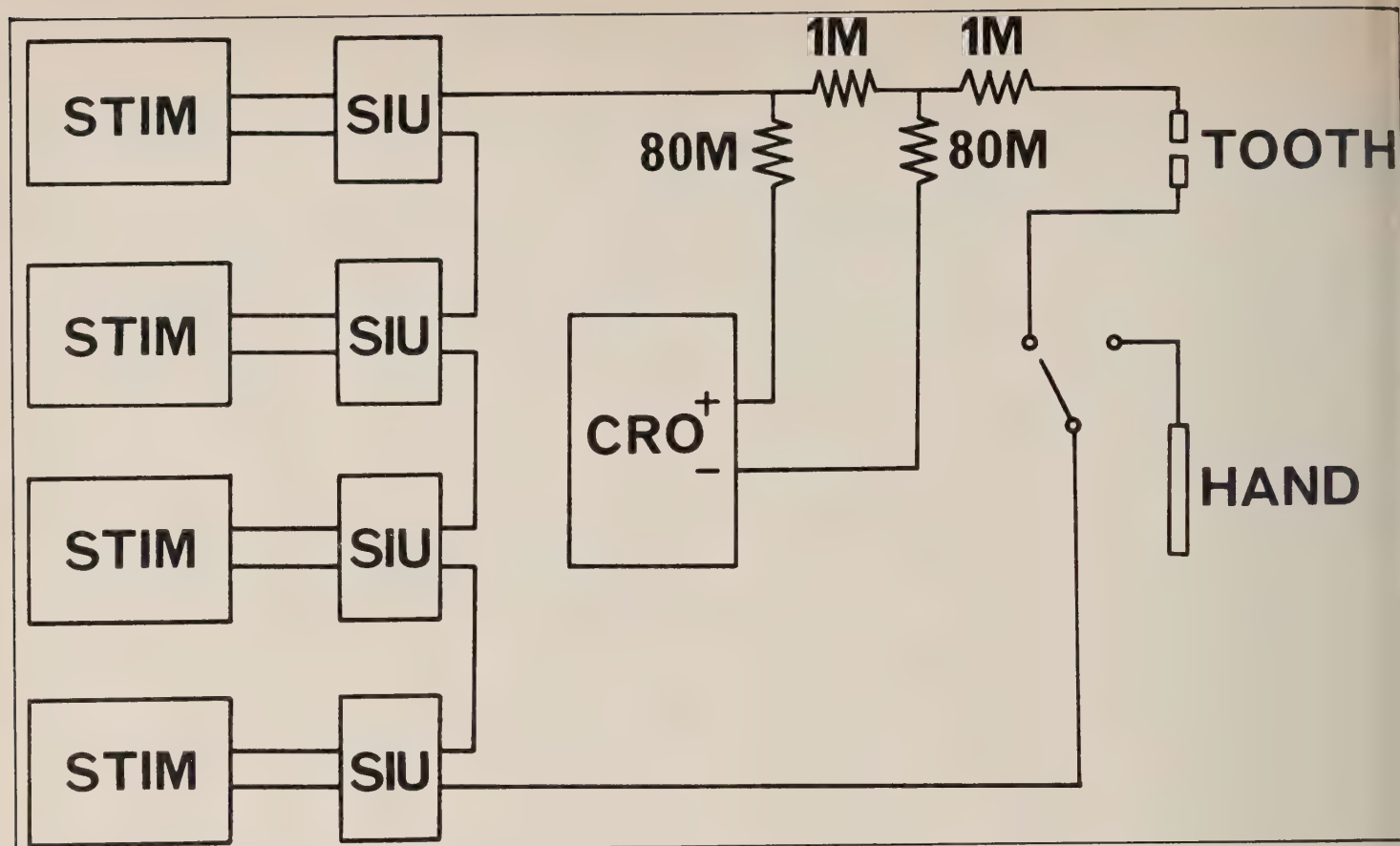


Fig 2 Overall arrangements of the apparatus used in the experiments. STIM, SIU and CRO represent stimulator, stimulus isolation unit and oscilloscope, respectively.

normal input impedance of the amplifier was 10 M Ω but the circuitry shown in Figure 2 ensured little current loss through the monitoring apparatus. The electrode heads were made of orange-wood stick soaked in normal saline, each trimmed to a surface area of 1 mm.² With this stimulating arrangement, current flow at threshold for monopolar or bipolar stimulation was within the 6-1 μ A.

Each subject reclined comfortably in a conventional dental chair in a quiet room and rubber dam was used to isolate and maintain the dryness of the upper anterior teeth. During each test, one operator controlled the friction-held attachment of the electrodes to ensure complete immobility while a second operator slowly increased the current flowing through the tooth by raising the applied voltage until threshold was reached. This was signalled by the patient vocalizing at the first sign of any noticeable sensation. At this point the stimulus strength was reduced to zero, and the current flow at threshold was read from the stored trace on the oscilloscope.

In the first part of the study, 10 stimulating procedures were repeated without moving the electrodes from their position at the centre of the labial and lingual surfaces of the tooth. The same sequence was carried out using both monopolar and bipolar techniques. At the conclusion of these

runs the subjects were asked to comment upon the quality of the sensations felt and whether they found any discernible difference between the two methods of stimulation.

In the second part of the study, stimuli were applied once to different positions on the tooth crown. These stimuli were given in sequence to each of 10 locations as shown in Figure 3, the first stimulus of the series always being applied to the mesial incisal edge of the crown. These sequences were also repeated for both monopolar and bipolar techniques.

Results

In the first part of the study the average of the 10 runs of each series was taken as a measure of the threshold for that individual. The mean threshold calculated in this manner for all 30 subjects was 9.6 μ A S.D. $\pm$ 0.4 for monopolar stimulation and 9.9 μ A S.D. $\pm$ 0.5 for the bipolar series. The difference between these means was not significant to the 99th percentile. When the means of all the first stimuli applied to the subjects were compared with those of all the tenth stimuli for both the monopolar and the bipolar series, no significant difference could be demonstrated. This indicates that no monotonic trending had occurred

uring the stimulation sequences; that is, the subjects' thresholds did not progressively alter during the experimental runs.

The results of the second part of the study have been presented collectively in Table 1. Here the group mean thresholds are shown for different electrode positions according to the technique used. It can be seen from the table that data are presented for the entire sample of 30 subjects and also for the 15 subjects whose teeth did not contain restorations of any kind. The data for the monopolar combined group showed at least twice the variance of the monopolar unrestored group, for collective incisal and middle third measurements. No similar differences could be found for the gingival third or bipolar measurements. Nevertheless it was decided that only the data obtained from unrestored teeth should be used to study the effect of electrode placement upon threshold, since there was a possibility that the presence of proximal restorations could affect the threshold values at least in some areas. On this basis, the thresholds obtained during monopolar stimulation for positions 2-4 were not significantly different from that for position 1. Positions 5-10 were significantly different from position 1 when tested to the 99th percentile. It would appear from the results that during monopolar stimulation the incisal third of the crown had a lower threshold than either the middle or gingival third. This confirms similar observations made by others.¹⁰ In contrast, the thresholds obtained during bipolar stimulation were independent of position with the exception of that for position 7 which was significantly different from position 1. There is no reason to suppose that this particular location has a special feature which accounts for higher threshold to stimulation than anywhere else on the crown.

Of the sensations reported by the subjects, tingling and cold were dominant. The relative frequencies were as follows: tingling — 14 reports; cold — seven reports; heat — three reports; sour — three reports; buzzing — one report; squeezing — one report; uncomfortable — one report. The quality of the sensation was the same whether monopolar or bipolar stimulation was used. Fifteen subjects reported the onset of sensation to be the same irrespective of the technique; seven felt that the onset of monopolar stimulation was more gradual; and eight felt that bipolar stimulation caused the threshold to be approached more gradually.

Discussion

The results show that the current needed to stimulate a tooth by means of a bipolar electrode is

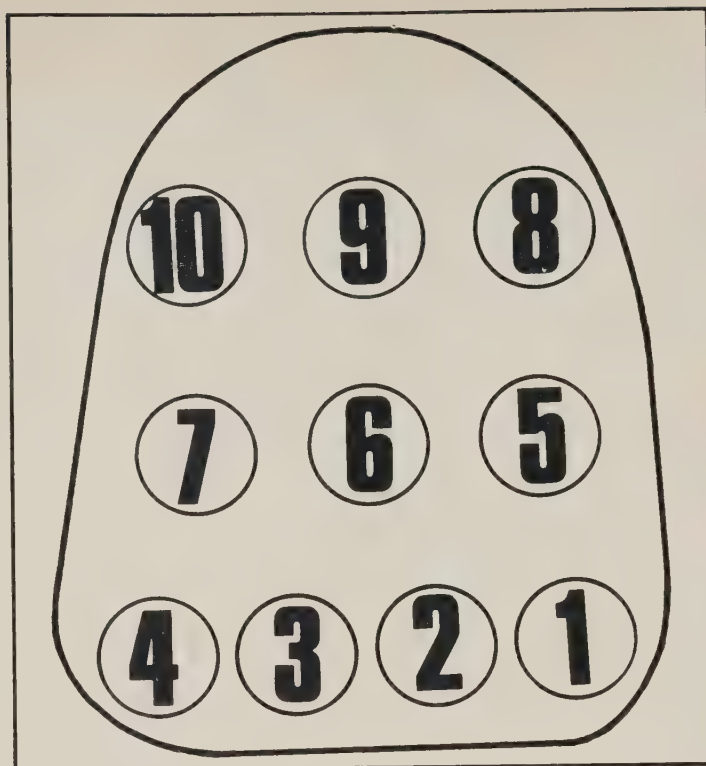


Fig 3 Locations used to stimulate the teeth as described in the text and in Table 1. Position 1 was always at the mesial side of the tooth.

no different from that required when using a monopolar method. However, it must be stressed that the overall impedance of the dental tissues is likely to have been higher in the bipolar series because more enamel separates the electrodes in this situation. This would mean that the voltages required to pass threshold current were probably higher than those needed in the monopolar technique, thus reinforcing the point made earlier that current monitoring is essential when comparing techniques such as these. The fact that the currents needed to reach threshold were the same in each case is not surprising since the same current flow would be necessary to cause sensation no matter how it was produced. The similarities of the threshold values and the sensations for monopolar and bipolar stimulation in each individual would suggest that in these experiments at least it is probable that the stimuli delivered by the monopolar electrode were confined mainly to pulpal afferent nerves, since it is almost certain that the stimuli delivered under bipolar conditions pass mainly through the crown. Nevertheless, the value of bipolar stimulation is that the excitation is always localized to the pulpal nerves, whereas in monopolar stimulation it is not necessarily so limited.

The techniques also show a difference in that the position of the bipolar electrodes on the crown

Mean current at threshold and standard deviation arranged according to the position of the electrodes on the tooth. Data are supplied for the monopolar and bipolar stimulation of a mixed sample of restored and unrestored teeth (N=30), and for the stimulation of unrestored teeth only (N=15).

Table

	Electrode location									
	Incisal third				Middle third			Gingival third		
	1	2	3	4	5	6	7	8	9	10
Monopolar (mixed)	6.6 ± 0.6	7.2 ± 0.5	8.2 ± 0.6	8.1 ± 0.7	8.3 ± 0.5	9.7 ± 0.8	9.5 ± 0.8	9.5 ± 0.5	10.7 ± 0.7	10.7 ± 0.7
Bipolar (mixed)	8.5 ± 0.7	8.8 ± 0.7	9.2 ± 0.8	10.9 ± 1.0	8.9 ± 0.8	10.9 ± 0.9	11.7 ± 1.0	10.1 ± 1.0	10.6 ± 1.1	10.6 ± 1.1
Monopolar (unrestored)	6.6 ± 0.7	7.02 ± 0.7	7.6 ± 0.7	7.4 ± 0.7	8.8 ± 0.8	8.7 ± 0.8	9.2 ± 1.1	8.9 ± 0.8	10.5 ± 0.7	10.3 ± 0.7
Bipolar (unrestored)	8.8 ± 0.7	8.6 ± 0.9	8.9 ± 1.0	10.9 ± 1.4	9.8 ± 1.1	11.0 ± 1.3	11.9 ± 1.4	10.6 ± 1.4	11.4 ± 1.5	10.9 ± 1.1

of the tooth does not seem to be as important as that of the monopolar electrode in determining the threshold. In the monopolar technique, stimulation of the incisal third of the crown is associated with an earlier response to an increasing stimulus than the response obtained by stimulating anywhere else. The relative independence of bipolar electrodes from a specific most-effective location could prove useful clinically, particularly in the comparative assessment of several teeth where matching electrode placement may be difficult to achieve.

The sensations experienced by the subjects are in keeping with those described in a previous report⁵ in that none of our subjects reported the sensation as being unpleasant. By and large they are in keeping with our present understanding of pulpal innervation⁶ since the larger diameter fibres in the pulp are likely to be stimulated first. However, the high frequency of tingling and cold sensations does imply, as others have suggested,⁵⁻⁸ that pain may not be the only sensation which can be elicited from the pulp.

Conclusion

These experiments have contrasted bipolar stimulation of the teeth with the usual method of monopolar stimulation. The current required for stimulation is the same in each case, the sensations reported by the subjects are similar, and the technique seems relatively independent of electrode placement in contrast to the monopolar technique. Since the essential value of bipolar stimulation is that the stimulus is confined to the pulpal innervation, it would seem to be a more desirable

method of pulp testing than the conventional monopolar technique used.

The authors express appreciation to Mrs. J. Scott for assistance with the statistical data.

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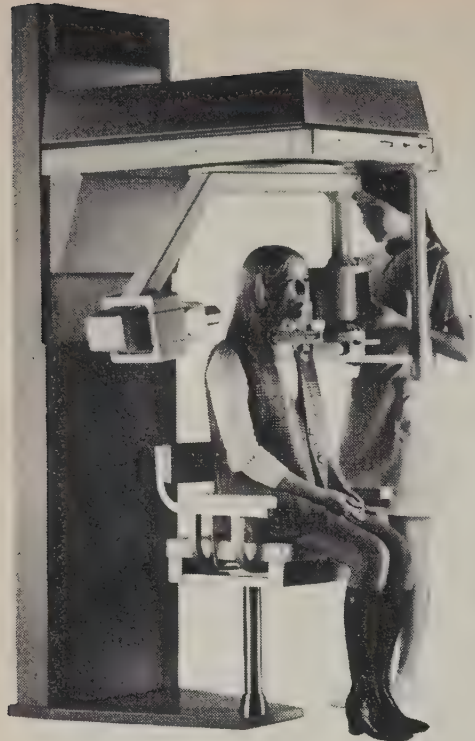
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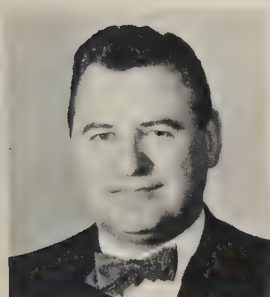
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Antibiotic therapy for the practicing dentist

Joan deVries, MD
L. E. Francis, DDS, M.Sc.
Montreal



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Dr. Joan deVries is Associate Professor of Microbiology, Faculty of Dentistry, McGill University, Montreal.

Since the introduction of antibiotics into the practice of dentistry, it has been possible to control many pathological conditions which in the past frequently resulted in death or prolonged serious illness. The acute cellulitis caused by an alveolar abscess that often resulted in septicemia or pointed to the outside of the face leaving a permanent scar, is almost unheard of now. However, some problems still exist, many of them due to the indiscriminate use of these drugs, which result in the appearance of resistant bacterial strains and allergic responses in many patients. Penicillin, since it was the first of the antibiotics, has, in particular, been carelessly used. In the practice of dentistry, antibiotics should be used only when obviously indicated (Fig 1). In all instances, a proper diagnosis should be made and a history taken as to past illness and, most important, any previous use of antibiotics, plus an inquiry as to any untoward reaction from the use of such drugs. Careful thought must be given to the choice of the antibiotic, the dose and duration of administration. Too often an antibiotic is administered without awareness of the type of causative organism or its antibiotic sensitivity pattern. This is particularly true in the practice of endodontics and oral surgery. In the ideal situation, a culture of the infected area is obtained for bacterial identification and *in vivo* tests for antibiotic sensitivity performed on the isolates. This is not always practical. Therefore,

INTRODUCTION

Dr. deVries and Dr. Francis begin their series on antibiotic therapy for the practising dentist in this issue. The authors will welcome comments and questions from readers in order to make these articles of greatest practical value.

when an antibiotic is administered without laboratory confirmation and there are no signs of improvement within a reasonable period, the antibiotic should be changed. A poor clinical result would indicate that the organisms involved are not sensitive. The occurrence of possible side effects should always be kept in mind. Antibiotics are accepted as drugs which are safe for therapeutic use with certain limitations, as serious side effects may occur.

In the following series, the benefits as well as the possible hazards of antibacterial therapy are discussed. An understanding of the properties of the various antibiotics will enable the knowledgeable practitioner to successfully manage most of the infections encountered in dental practice.

Penicillins

Penicillin was first discovered by Sir Alexander Fleming in 1928, but it was not until 10 years later that Florey and Chain prepared the product which could be used in the treatment of infections. It was the first of the antibiotics and in many ways is still the most superior. The story of its development is one of arduous investigation resulting in the purified end product which is in general use today.

The first problem to be solved was one of production as the original product could be produced only in minute quantities. Intensive testing of various strains and mutants finally led to the selection of a mutant strain of *P. chrysogenum* as the strain which had the highest potency. The deep fermentation procedure for cultivation opened the way for large-scale production of penicillin, and when it was discovered that growing *P. chrysogenum* in corn-steep liquor also enhanced production it finally became possible to manufacture penicillin on an enormous scale.

Next, the stability and purity of the compound were investigated. The early salts were relatively unstable in solution and often painful on injection. They were also destroyed by gastric acid. These problems have been overcome and stable oral penicillins are now available for therapeutic use. These are Penicillin V and acid stable salts of Penicillin G.

The isolation and purification and the penicillin nucleus, 6-aminopenicillanic acid¹ opened a new chapter in the penicillin story. It then became possible to produce new compounds by the addition of different side chains to the nucleus. These are known as semi-synthetic penicillins and are quite different in their action to the natural penicillins. One of these of importance to the practising dentist is ampicillin, which will be discussed later.

Natural Penicillins

Antibacterial spectrum

The many species of micro-organisms which inhabit the oral cavity are on the whole sensitive to the action of penicillin. These include the streptococci, both aerobic and anaerobic, gram negative cocci, spirochaetes and the actinomycetes. In general it is not active against Gram negative rods with the exception of some strains of bacteroides and fusobacterium. It has no effect against yeasts and viruses.

Resistance to penicillin

Antibiotic resistance may be classified as natural or acquired. Penicillin is destroyed by penicillinase which acts by hydrolyzing penicillin to the inactive penicillinoic acid. The production of penicillinase by penicillin-resistant organisms explains the occurrence of naturally resistant bacteria. This enzyme is produced by many species of bacteria, notably the penicillin-resistant strains of *Staph. pyogenes* and the enterobacteria but these species such as *E. coli* are not concerned in oral infections. Acquired resistance to penicillin, although rarer, does occur. *Alpha streptococci* are usually sensitive, but resistant strains have been found in the saliva of patients who have received large amounts of penicillin.² In a recent investigation, deVries, Platonow and Francis,³ showed an increasing resistance to penicillin in both aerobic and anaerobic bacteria isolated from oral infections.

Mechanism of action

Penicillin exerts a bactericidal effect only on those cells which are actively multiplying. Organisms grown in sub-lethal concentrations of penicillin produce many swollen and bizarre shapes and it was suspected that the drug exerted a deleterious effect on the cell wall. The early work of Park and Johnson⁴ showed that penicillin inhibits the synthesis of mucopeptides necessary for rigid wall formation. The interference with cell wall formation produces an osmotically sensitive cell, and death occurs by lysis. The cell wall is formed as the organisms are growing and becomes quite rigid when growth is complete. This would explain why penicillin exerts its activity only in the rapidly growing cell.

Absorption and excretion

When administered orally, penicillin is rapidly absorbed from the gastrointestinal tract and dif-



Fig 1 Oedema on right side of face due to an apical abscess of a lower molar. The patient was in no apparent distress and temperature was normal. Removal of the tooth was adequate treatment and no antibiotics were necessary.



Fig 2 Extensive oedema involving the eye, bridge of nose and upper lip.

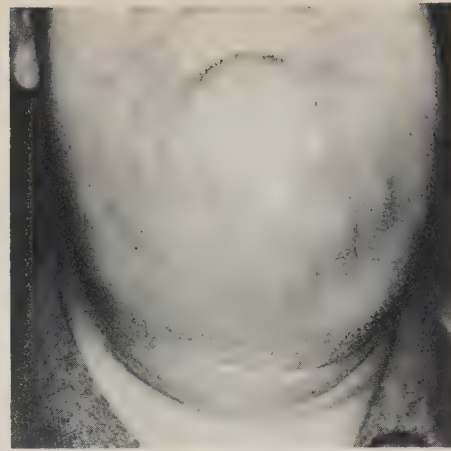


Fig 3 Patient with Ludwig's angina.

Penicillin diffuses readily into most tissues and fluids. It does not penetrate well into nervous tissue or bone marrow, and because of poor blood supply only a small amount reaches walled-off areas such as abscesses and granuloma.

Penicillin is rapidly cleared from the blood and begins to appear in the urine within minutes after absorption. Approximately 60 per cent of the dose is excreted in the urine within the first hour, chiefly via the renal tubules. The remaining portion is destroyed in the body.

The presence of food in the stomach hinders absorption, so that it should be administered as much as possible on an empty stomach.

Toxicity and side effects

Penicillin is essentially non-toxic. Extremely large doses in the millions of units can be given without danger to the patient. However, it has one serious drawback and that is its potential sensitizing effect. This is not a toxic feature and is in no way related to the size of the dose but rather to the peculiar idiosyncrasy of the individual. Allergic reactions can be anything from the mild urticarial skin reaction to the severe and often fatal systemic anaphylactic reaction. Allergic reactions more often occur in patients who have previously been treated with penicillin, but can occur on first administration, particularly in patients with a history of other allergies such as hay fever, asthma or eczema. Oral penicillins are considered less dangerous than injectable penicillins, in that reactions when they do occur are less severe and the incidence is much lower. However, any patient who states that he is allergic to penicillin should never be given the drug. Penicillin should never be used topically, as figures show that when applied to the

mucous membranes or skin in troches or ointments it has a high sensitivity potential.

Oral adult dose — Penicillin V—250 mg four times a day
Penicillin G—2,000,000-3,000,000 IU daily in divided doses

Therapeutics

Penicillin is considered the most useful antibiotic in the practice of dentistry. With the exception of the penicillin-hypersensitive patient, it can be prescribed with safety in the treatment of acute alveolar abscesses, with or without cellulitis, periodontal abscesses, acute pericoronitis, actinomycosis, Ludwig's angina or, generally speaking, soft tissue infections of the face related to odontal pathology. Its antibacterial spectrum will include those organisms commonly responsible for these infections. Acute necrotizing ulcerative gingivitis will generally respond to treatment with oxidizing agents but in the serious infections where toxæmia is evident, penicillin will give a good clinical result.

When the decision to use penicillin has been made, treatment should be continued for at least seven days, with the exception of actinomycosis in which infection one to six months therapy is required.

It should be re-emphasized that although penicillin can be prescribed empirically, if clinical improvement is not observed in 48 hours, serious consideration should be given to alternate antibiotic therapy. The emergence of penicillin-resistant strains of micro-organisms is always a possibility.

Prophylaxis

Transient bacteraemias may occur from a variety of conditions. It is accepted that tooth extraction can be responsible, but it is less known that the same can occur during other minor procedures carried out in an unhealthy mouth. Winslow and Kobernick⁵ showed that bacteraemias can occur following a vigorous prophylaxis in an unclean mouth, and Eisenbud⁶ has shown that endodontic treatment has also been responsible for bacterial invasion of the blood stream resulting in subacute bacterial endocarditis. It is important to note that the type of dental procedure is not so much an influencing factor as is the condition of the surrounding tissues.

There is no general agreement that antibiotics should be administered prophylactically for all minor operations, but they should be considered for periodontal, endodontic and surgical procedures in the presence of oral disease, in those with a history of valvular heart disease, patients with prosthetic heart valves, those being treated with immunosuppressive drugs, the aged or debilitated. If there is even a suspicion of the foregoing conditions, it is generally agreed that penicillin is the drug of choice and should be administered prophylactically for the patient's protection.

There appears to be no blanket agreement as to which dosage or method of administration is most effective. Some investigators feel that penicillin should first be administered two hours before the dental operation, postoperatively, and continued for the next two days. This is because of the possibility of acquiring resistant forms of bacteria which would become a real hazard if they attached themselves to the valves of the heart. Again, other investigators⁷ feel that at least 3,000,000 IU per day in three divided doses should be administered, the day before, the day of, and two days following the dental procedure, and it would appear from clinical observations that either is acceptable.

Penicillin cannot be used for the treatment of all oral infections such as acute oral herpes, erythema multiforme, aphthous stomatitis or oral candidiasis, other than to reduce secondary infection.

Figure 2 shows a patient who was in severe pain and with signs of toxicity such as an elevated temperature. The extensive oedema involving the eye, bridge of the nose and the upper lip was due to an infection surrounding the root of an upper bicuspid. Surgical intervention was contraindicated at this time and it was necessary to place the patient on penicillin therapy (3 million units orally a day in 3 divided doses for seven days) until her condition had improved and the tooth could be safely removed.

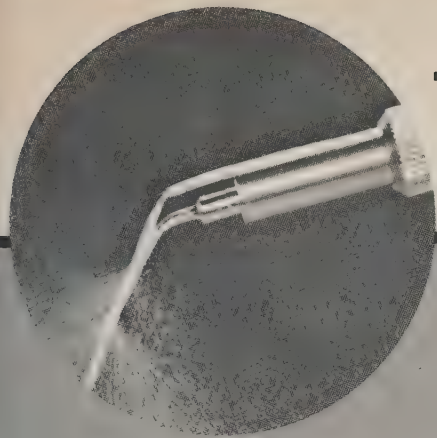
Figure 3 is a classic example of Ludwig's angina, which developed following extraction of a lower third molar with pericoronitis. This was an emergency situation because of extreme discomfort and difficulty in breathing and swallowing. Surgical drainage was established immediately and the patient was given penicillin V, 250 mg four times a day, orally, for 10 days.

For acceptable preparations of Penicillin G potassium and phenoxymethyl penicillin (Penicillin V) refer to *the Compendium of Pharmaceuticals and Specialties*, 8th edition 1973, published by the Canadian Pharmaceutical Association.

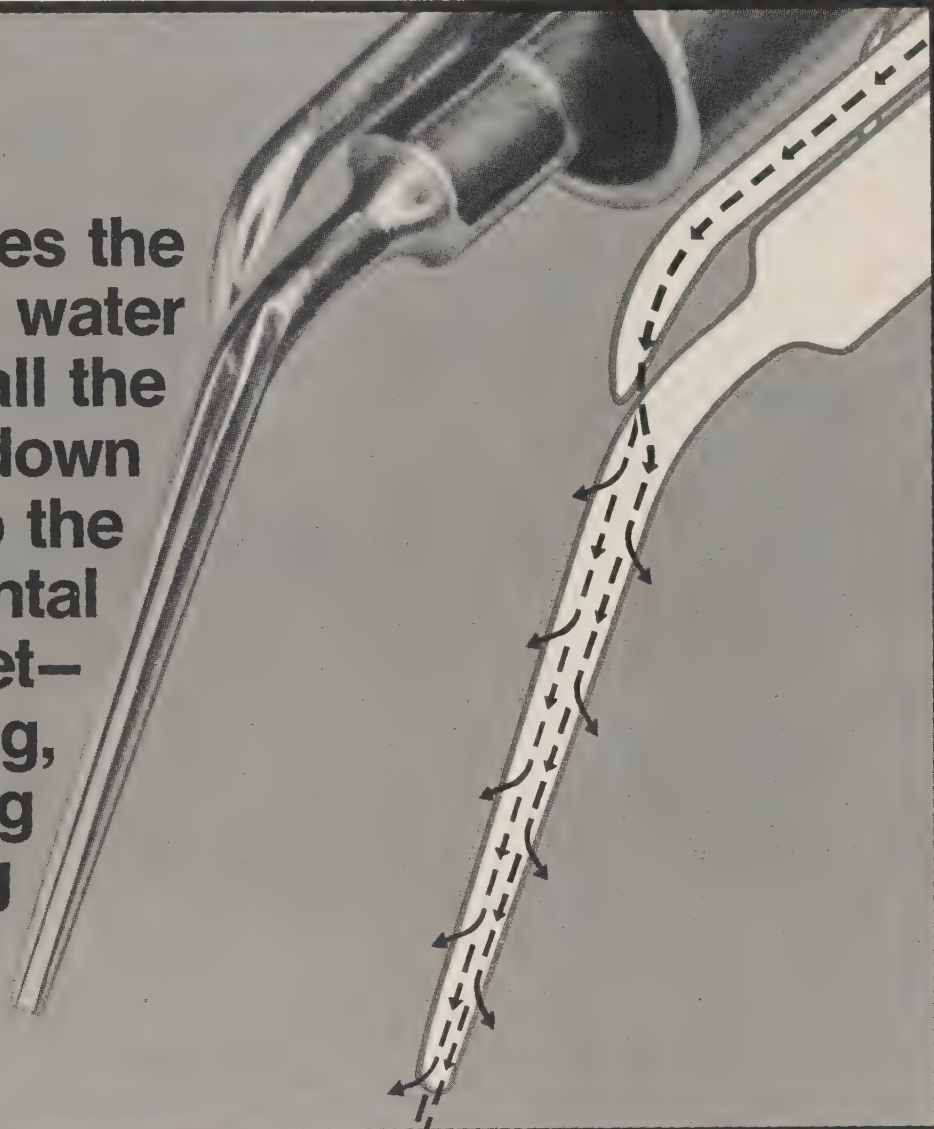
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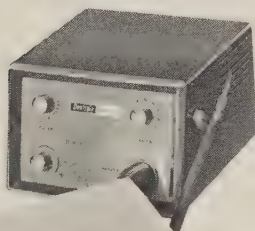


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Utilization of fluorides in areas lacking central water supplies

S. B. Heifetz, DDS, MPH
H. S. Horowitz, DDS, MPH
W. S. Driscoll, DDS, MPH
Bethesda, Maryland

The authors evaluate various means of purveying fluorides to persons lacking access to a central water system. These include the fluoridation of school water supplies, fluoride tablets, mouthrinsing with sodium fluoride solutions, self-application of sodium fluoride gels, and toothbrushing with gels or solutions of acidulated phosphate-fluoride or with stannous fluoride-zirconium silicate pastes. School water fluoridation has resulted in caries reductions of up to 39 per cent, but suffers from the limitations that children are five to six years old before they enter school and thereafter receive only intermittent exposure to fluorides. Dietary supplements of fluoride tablets have brought about caries reductions of from 20 to 40 per cent. The tablets must, however, be distributed in the schools as distribution for home use has met with little success. However, the level of fluoride required for optimal systemic benefits where fluoride is given in tablet form is still unknown. Weekly mouthrinsing with a sodium fluoride solution has produced caries decrements of up to 52 per cent. This procedure is practical, easy to learn and supervise, and causes minimal interruption to the normal school program. Compared with the results of supervised toothbrushing with acidulated phosphate-fluoride solutions or gels, equal or greater benefits have been obtained from self-applied weekly or fortnightly mouthrinsing. Preliminary claims for the benefits of toothbrushing with stannous fluoride-zirconium silicate pastes await further confirmation.

Les auteurs portent un jugement critique sur les divers moyens de fournir des fluorures aux personnes qui n'ont pas accès à un système d'approvisionnement d'eau potable. Parmi ceux-ci, citons la fluoruration des approvisionnements d'eau potable des écoles, les comprimés de fluorures, l'emploi de solutions de fluorures de sodium comme rince-bouche, l'auto-application de gels de fluorure de sodium, l'emploi de solutions ou de gels de phosphate de fluorure (acidulé ou de pâtes de silicate de zirconium de fluorure stanneux). La fluoruration de l'approvisionnement d'eau potable dans les écoles a entraîné une diminution des caries dans une proportion atteignant 39 pour cent. Toutefois, cette méthode présente l'inconvénient de n'atteindre que les enfants d'âge scolaire, c'est-à-dire à partir de cinq ou six ans, et de ne fournir que des traitements intermittents par la suite. Un supplément diététique de comprimés de fluorures a réduit les caries dans la proportion de 20 à 40 pour cent. Toutefois, les auteurs soulignent qu'il est préférable de distribuer les comprimés dans les écoles plutôt que dans les foyers, étant donné le peu de succès remporté par ce dernier procédé de distribution. D'après les auteurs, le niveau de fluorures susceptible d'entraîner le bénéfice optimal sous forme de comprimés n'est pas encore connu. Les solutions de fluorure de sodium utilisées chaque semaine comme rince-bouche ont réduit les caries dans la proportion de 52 pour cent. Cette méthode est pratique, facile à apprendre et à contrôler et ne cause que des interruptions minimales dans la poursuite du programme normal. De plus, cette méthode, pratiquée chaque semaine ou tous les quinze jours, produit des résultats semblables ou supérieurs à ceux qui furent obtenus par le brossage des dents avec des solutions de gels de phosphate de fluorure acidulé. Les avantages attribués au brossage des dents avec des pâtes de silicate de zirconium de fluorure stanneux restent toutefois encore à confirmer.

Of all procedures for administering fluorides, the fluoridation of a municipal water supply is the method of choice. Community fluoridation is safe, effective and economical. Furthermore, it is an ideal public health measure because no cooperative effort on the part of the public is required to produce substantial protection against dental caries. But how can we convey fluoride to the millions of persons living in areas not served by central water supplies? The solution of this problem depends on finding methods of fluoride administration that can benefit large numbers of persons with minimal demands on professional dental manpower and funds. For the past several years, much of our applied research has been directed toward this goal. This paper reviews some of the highlights of our work along with several pertinent investigations of others.

School fluoridation

Schools whose water supplies are not connected to a community's central water system usually have private wells — and the water from these wells can easily be fluoridated. In the United States, nearly all school-age children annually spend from 20 to 25 per cent of their total waking hours in school. A similar percentage of the total water consumed by these children is probably drawn from the school's water supply.

One obvious limitation of school water fluoridation is that children are at least five or six years old before they begin attending school, whereas maximal dental benefits accrue when fluoridated water is consumed from birth.¹ However, data obtained from communities with controlled fluoridation indicate that children who are six years of age or older at the time fluoridation is initiated do derive dental benefits.^{2,3} These findings are not surprising considering that at age six a sizable amount of calcification will still occur in the late erupting permanent teeth.⁴ In addition, considerable fluoride uptake occurs between the completion of permanent tooth calcification and eruption.⁵ Evidence also indicates that the topical action of fluoridated water confers some protection against caries to erupted teeth.⁶

Another limitation of school water fluoridation is that children attend school only five days a week for part of the day and thus receive intermittent exposure to fluorides. A few studies, however, have reported benefits to the teeth of children who consumed fluoridated water only part of the time.⁷⁻¹⁰ These children drank water at home that contained insignificant amounts of fluoride but at school they consumed city water or water with natural

fluorides at levels varying from 1 to 3.5 parts per million (ppm).

A pilot study to test the hypothesis that dental decay can be reduced in children who consume fluoridated water only at school was begun in 1954 in the Virgin Islands. Water supplies of two elementary schools (grades 1-6) in Charlotte Amalie, a community with fluoride deficient water sources, were fluoridated at 2.3 ppm fluoride — slightly more than three times the optimum level recommended for community fluoridation in that climatic region. In 1962, eight years later, a dental survey was conducted at one of the two test schools with an acceptable record of continuous fluoridation and at a group of comparable control schools in the same community." The findings showed that the caries attack rate for children who attended the test school was 22 per cent lower than for children in the control schools.

Two additional school fluoridation studies were initiated in 1958, one in Pike County, Kentucky and the other in Elk Lake, Pennsylvania. In Pike County, fluoride was added to the water supply of two schools (grades 1-12) at a level of 3 ppm or 3.3 times the recommended optimum for community fluoridation in that area; in Elk Lake, a level of 5 ppm of fluoride or 4.5 times the optimum was maintained at one consolidated school. Interim findings at both study sites showed that children who had continuously attended these schools had appreciable reductions in the average number of decayed, missing and filled (DMF) teeth compared with children who attended the schools before the institution of school water fluoridation.^{12,13}

On the eight-year follow-up survey in Elk Lake, children in grades 7, 8 and 9, who had consumed water containing 5 ppm of fluoride at school since the first grade, were examined for signs of dental fluorosis. Their late erupting teeth (cuspids, bicuspid and second molars) had been exposed to the high level of fluoride while they were still calcifying. If there were any danger of the procedure causing fluorosis, these teeth would have demonstrated it. Actually, only one child of the 281 children examined had definite fluorosis, and his was of the very mild type.¹⁴

Results of the final examinations in Elk Lake made in 1970 are shown in Table 1.¹⁵ Compared with the overall average of 7.72 DMF teeth on the baseline, children examined after 12 years of school fluoridation averaged 4.71 DMF teeth, a reduction of 39 per cent. Early erupting teeth (incisors and first molars) of all children examined in 1970 were completely calcified and usually erupted at the time when fluoride exposure began in the first grade; their late erupting teeth, however, were still calcifying at that time. Because late

Average DMF tooth scores by age in 1958 and 1970:
school fluoridation at Elk Lake, Pennsylvania

Table 1

Age	1958 (Baseline)		1970		Difference in average DMFT	% reduc- tion from 1958
	No. of children	Average No. DMFT	No. of children	Average No. DMFT		
6	91	0.86	83	0.54	0.32	37.2
7	84	2.17	121	1.04	1.13	52.1
8	64	2.94	126	1.86	1.08	36.7
9	85	3.72	115	2.35	1.37	36.8
10	81	4.48	107	2.84	1.64	36.6
11	123	6.36	92	4.01	2.35	36.9
12	90	8.96	79	4.63	4.33	48.3
13	114	10.89	106	5.82	5.07	46.6
14	85	11.86	74	8.04	3.82	32.2
15	102	13.32	96	7.90	5.42	40.7
16	68	14.93	84	9.98	4.95	33.2
17	43	14.19	66	9.85	4.34	30.6
Total	1,030	7.72	1,149	4.71*	3.01	39.0

*Adjusted to 1958 age distribution

erupting teeth received both systemic and topical exposure to fluoride, they should have greater potential for caries protection than should early erupting teeth which received only topical exposure. Compared with findings on the baseline, late erupting teeth in 1970 demonstrated about twice as much relative caries protection as did early erupting teeth, 57 per cent and 28 per cent, respectively. Pinpointing the effects of the procedure by type of surface, the results showed that school fluoridation protected proximal surfaces of teeth to a greater extent than it did other types of surfaces.

The engineering aspects of school water fluoridation, with the exception of maintaining a higher fluoride level, are fundamentally the same as those of community water fluoridation. Water works engineers given the assignment of adding fluoride to a school's water supply can find the basic technical information in special reports.^{16,17} The most difficult problems that have been encountered in school fluoridation projects relate to the maintenance of equipment and the surveillance of fluoride levels; both must be done regularly and conscientiously.

At present, a level of 4.5 times the optimum indicated for community fluoridation in the geographic area can be recommended as being safe and effective for school fluoridation programs. Additional studies are needed, however, to answer the following questions: (1) What are optimal

fluoride concentrations in various geographic areas when exposure is limited to school consumption? (2) How long must a child be exposed to the fluoridated water supply to derive maximum benefits from the procedure — throughout both elementary and high school or only during elementary school attendance? If it is necessary to fluoridate only elementary school water in order to produce maximum benefits, the cost of school fluoridation on a nationwide basis would be considerable less than if junior and senior high schools also had to be included in school fluoridation programs.

To help provide some of this information, a fourth school fluoridation study was started in Seagrove, North Carolina in 1968. The water supply of a rural school containing grades 1-12 is being fluoridated at a level of 6.3 ppm, or seven times the optimum for community fluoridation in the geographic area.

Dietary supplements of fluoride tablets

A method of fluoride administration which has received widespread attention and study is the daily consumption of a fluoride-containing tablet. Because it is difficult for children and their parents to follow the strict regimen required for effective administration of oral fluoride supplements, public health programs in which tablets have been dis-

buted to families for home use have met with little success.¹⁸⁻²⁰ However, several studies in the United States and abroad have demonstrated a caries-inhibitory effect when fluoride tablets were administered in a school program.²¹⁻²⁷ In some of these studies, the children received tablets on a daily basis throughout the calendar year,²¹⁻²⁴ whereas in the others,²⁵⁻²⁷ the tablets were given only on school days (160-200 days a year). The fluoride concentrations of tablets used in these studies varied from 0.5 mg to 1.0 mg. After two or more years of fluoride ingestion, caries reductions in most of these studies were reported to be in the approximate range of 20 to 40 per cent.

Evidence of a post-eruptive effect from ingestion of fluoride tablets can be found in several of these studies, suggesting that the tablets should be kept in the mouth as long as possible before swallowing. De Paola and Lax²⁵ conducted a study in which first, second and third grade children received daily at school a chewable, acidulated phosphate-fluoride (APF) tablet containing 1 mg of fluoride. A comparable group of children received a tablet without fluoride that was similar in taste and appearance. The children were instructed to chew the tablet and immediately to rinse their teeth with the resulting solution before swallowing. At the end of two years, children in the treated group experienced a reduced increment in decayed and filled surfaces of 23 per cent, compared with the controls. A substantially greater effect was noted for teeth erupting during the course of the study than for teeth present initially. The investigators suggested that the increased effectiveness in newly erupted teeth resulted from a combination of endogenous action of ingested fluoride before eruption and a topical effect after eruption.

Acidulated phosphate-fluoride tablets dissolve readily in the mouth after chewing to form a salivary solution containing 1.0 mg of fluoride from 2.2 mg sodium fluoride) and M/10 phosphate, with a pH of about 4.5. The solution formed when the tablet is chewed and diluted with 5 ml of saliva contains a fluoride ion concentration of 0.02 per cent, equivalent to 200 ppm. This fluoride ion concentration is considerably lower than the 1.23 per cent fluoride contained in the APF formulation recommended for annual or semi-annual professional application. A concentration of 0.02 per cent fluoride, however, closely approaches the level of fluoride used successfully in a daily mouthrinsing study by Torell and Ericsson,²⁸ to be discussed later in this paper.

The level of fluoride required to produce optimal systemic benefits when fluoride is administered in tablet form is unknown. The tentative

recommendation of 1 mg per day for children over three years of age where the water supply is substantially devoid of fluoride is based on estimates of the amount of fluoride consumed on a full-time basis from drinking water optimally fluoridated at 1 ppm. Because consumption of fluoride tablets at school is intermittent, it can be hypothesized that greater caries protection than has been reported can be obtained safely by increasing the level beyond 1 mg. Consider that, if administration of tablets containing 2 mg of fluoride were limited to consumption on school days only, during a year's time total fluoride intake and also average daily fluoride intake would be approximately equal to that received if 1 mg of fluoride were consumed every day.

In 1969, we initiated a longitudinal study designed to evaluate the effect of a long-term fluoride tablet program in controlling dental caries. Approximately 1,000 children in grades 1 and 2 attending school in Wayne County, North Carolina, were randomly assigned to one of three groups. Children in one test group chew a flavoured acidulated phosphate-fluoride tablet containing 1 mg of fluoride, rinse 30 seconds with the resulting salivary solution and then swallow the material. A second test group follows the procedure twice a day, once in the morning and once in the afternoon; they thus receive daily on school days 2 mg of fluoride. A third group uses a placebo tablet and serves as a control. The procedures are carried out under the supervision of the classroom teacher.

For the group receiving two tablets at school it was decided to administer the fluoride in divided doses at least three hours apart, because it has been shown that ingested fluoride from a single tablet is cleared rapidly from the circulatory system and excreted; the greatest rate of clearance occurs within two to four hours following ingestion.²⁹⁻³¹ In addition to increasing the potential for systemic benefits, topical effectiveness in erupted teeth also may be enhanced as a result of the twice daily rinsing required in the procedure.

Tablet administration is scheduled to continue in the study through the eighth grade when the children are approximately 13 years of age. By this age, the crowns of all teeth except third molars will have completed the pre-eruptive maturation stage, a critical period when teeth receive the final benefits of systemic fluoride exposure.^{32,33} Because newly erupted teeth at age 13 will not have been in the mouth long enough to demonstrate a difference in caries susceptibility among groups, it is likely that the maximum treatment effect from the procedure may manifest itself after the administration of the tablets has been discontinued.

Net mean incremental DMF tooth and surface scores after 12 and 20 months for children in grade 5 present for all examinations, according to group: sodium fluoride mouth-rinsing at Portland, Oregon

Table 2

Study group	No. of children	Teeth			Surfaces		
		Mean DMFT increment	Difference %	P	Mean DMFS increment	Difference %	P
After 12 months							
A	110	0.85(0.18)			1.46(0.27)		
B	98	0.56(0.15)	34.1	0.21	1.05(0.24)	28.1	0.27
After 20 months							
A	110	1.63(0.25)			2.92(0.40)		
B	98	0.79(0.17)	51.5	< 0.01	1.65(0.28)	43.5	<0.01
Figures in parentheses are standard errors of the means							

Figures in parentheses are standard errors of the means

Accordingly, the final examinations will be carried out when the study participants are in grades 10 and 11, two and three years, respectively, after the discontinuation of treatments.

Mouthrinsing with dilute sodium fluoride solutions

In the Scandinavian countries, large numbers of school children now take part in fluoride-mouthrinsing programs organized by the school dental service. A main source of experimental evidence to support the efficacy of mouthrinsing comes from the series of studies conducted by Torell and associates.^{2,8,34-36} The most comprehensive of those investigations was that conducted in Göteborg, Sweden.^{2,8} Included among the evaluated procedures in the latter study were a daily unsupervised rinsing at home, following evening toothbrushing, with a sodium fluoride solution containing 0.023 per cent fluoride and, under the supervision of dental nurses, a fortnightly mouthrinsing at school with a sodium fluoride solution containing 0.09 per cent fluoride. At the conclusion of the two-year study, children in the daily mouthrinsing group showed a mean incremental caries score of 5.1 DMF surfaces, approximately 50 per cent lower than the increment of 10.0 DMF surfaces experienced by controls. Lesser benefits, a 21 per cent reduction in average new DMF surfaces, were found in children who rinsed fortnightly. The difference in caries protection afforded by the two mouthrinsing procedures was statistically significant, indicating the importance of frequent application in enhancing the effect of topically

applied fluorides. Compared with the findings for other study groups who received professionally administered fluoride applications or who brushed with fluoride dentifrices, the daily mouthrinsing procedure also yielded significantly better results.

Our first fluoride mouthrinse study was initiated in 1967 in Portland, Oregon, in cooperation with the Oregon State Board of Health.^{3,7} Participants in the 20-month evaluation were children in grades 1 and 5 who were randomly assigned to one of two study groups: Group A (the controls) rinsed in school once every month with a placebo solution containing sodium chloride; Group B rinsed in school once a week with a sodium fluoride solution containing 0.09 per cent fluoride. The frequency of using the fluoride mouthrinse was increased to once a week in Portland in hopes of obtaining greater benefits than had been achieved by fortnightly rinsing in the Göteborg study.

The solutions were delivered by staff of the Board of Health to the schools in 1 gallon polyethylene bottles fitted with springloaded 10 ml pumps. The only other supplies needed were napkins and paper cups. The cost of supplies and materials was estimated at only 31 cents per child per year.

After receiving initial instruction and training, the teachers regularly dispensed the solutions and supervised the mouthrinsing. Children in each classroom were given approximately 10 ml of solution in a paper cup on rinsing days and, together they rinsed vigorously for one minute. Each child then emptied the contents of his mouth into his cup, stuffed an absorbent napkin into the cup to soak up the solution, and then the liquid-free cup containing the saturated napkin was collected in a large plastic bag.

Table 2 shows the findings for the 308 continuous participants in grade 5.³⁷ After 12 months, children who rinsed weekly with the 0.2 per cent sodium fluoride solution developed 34 per cent fewer DMF teeth and 28 per cent fewer DMF surfaces than did children in the control group. After 20 months, the percentage differences had increased to 51 per cent and 44 per cent, respectively. The differences in mean increments between test and control groups after 20 months were significant at less than 0.01. Percentage differences for children in grade 1 after 12 months were very similar to those found among fifth graders. However, the benefits for the younger children decreased during the second school year of mouthrinsing. During the course of the investigation, most decay in grade 1 children occurred on first molars, which because of their high susceptibility to decay may have experienced a reduced response to treatment. A breakdown of the findings for both first and fifth graders indicated that the protection appeared to be relatively greater on teeth that erupted after the study began than on teeth present in the mouth at the time of the baseline examination. In grade 5, the reduction on newly erupted teeth was 70 per cent compared with only 38 per cent on teeth present on the baseline. For the first graders, the respective reductions were 42 and 10 per cent.

From a practical aspect, it should be noted that the mouthrinsing procedure has the following advantages:

1. Little time is involved for the treatments.
2. The technique of application is easy for the children to learn.
3. Few treatment materials are required.
4. Teachers with minimal training can easily supervise the procedure.
5. Weekly treatments can be administered with minimal interruption of the school's academic program.

We have recently completed a second study in Portland to test the effectiveness of two flavoured and sweetened fluoride mouthrinses: an acidulated phosphate-fluoride solution and a neutral sodium fluoride solution. The test mouthrinses, which were commercially prepared, each had a concentration of 0.3 per cent fluoride. Children in grades 5-7 rinsed their mouths in school with one of the test agents or a placebo solution once a week under the supervision of the classroom teacher. Preliminary analysis of two year data indicates that both solutions produced positive results and there was little difference in their levels of effectiveness. The study was originally designed to last for three years. However, the taste of the mouthrinse solutions, particularly the acidulated phosphate-fluoride, became quite unpopular with

the students, and the study had to be curtailed after the second year.

Thus, solely from the standpoint of ease of administration, we would tend to discourage using either of the fluoride solutions evaluated in the second Portland mouthrinse study. In contrast, the unflavoured and unsweetened neutral NaF solution containing 0.9 per cent fluoride tested in the first study in Portland was well accepted by the children and can be recommended.

The important question of retained benefits following the cessation of a mouthrinsing program has been investigated by Koch.³⁸ During a three year period, elementary school children in Malmö, Sweden, participated in a fortnightly rinsing program with a 0.5 per cent sodium fluoride solution. After each year of exposure to fluoride, children in the test group experienced fewer new carious surfaces than the control group; a 25 per cent reduction was observed at the end of the program.³⁹ Two years after the discontinuation of treatments, children were re-examined. Koch reported that "no prolonged prophylactic effect could be demonstrated;" in other words, total caries increments for the five year period were similar in test and control groups.³⁸ It would appear that in order to maintain the protection conferred by fortnightly rinsing with sodium fluoride, the program must be continued longer than three years—perhaps indefinitely.

Englander et al^{40,41} also have reported on the post-treatment effect from a self-administered procedure for topical fluoride application. They found that children who made six minute applications of a 1.1 per cent neutral sodium fluoride gel in custom-fitted trays in school each day for 21 months developed 80 per cent fewer DMF surfaces than untreated children serving as controls.⁴⁰ Children on the same regimen with acidulated phosphate-fluoride of the same concentration developed 75 per cent fewer DMF surfaces than the controls. A follow-up evaluation made approximately two years after treatments were discontinued showed that children who had treated themselves with the neutral and acidulated gels developed 55 and 63 per cent fewer DMF surfaces, respectively, in the interim.⁴¹ Thus, although there was some drop off in conferred protection, a considerable residual anticaries effect from the discontinued treatments was demonstrated. Although treatment and post-treatment effects found in Englander's study are impressive, before the gel-filled mouthpiece procedure can seriously be recommended for public health programs, it must be shown whether or not substantial benefits can be produced with a more practical frequency of application.

Net DMF surface increments after one, two and three years for children present for all examinations according to study group: toothbrushing with acidulated phosphate-fluoride solution or gel in Brazil

Table 3

Study group	No. of children	Mean No. DMF surfaces	Mean fewer DMFS/child	% inhibition
After 1 year (5 applications)				
A	117	3.80(0.36)		
B	117	3.24(0.32)	0.56	14.7
C	108	2.73(0.27)	1.07	28.2
D	116	2.15(0.22)	1.65	43.4
E	108	3.10(0.35)	0.70	18.4
After 2 years (10 applications)				
A	117	7.03(0.51)		
B	117	5.62(0.47)	1.41	20.1
C	108	5.45(0.38)	1.58	22.5
D	116	5.09(0.35)	1.94	27.6
E	108	6.28(0.47)	0.75	10.7
After 3 years (15 applications)				
A	117	11.48(0.62)		
B	117	8.50(0.61)	2.98	26.0
C	108	8.48(0.53)	3.00	26.1
D	116	7.68(0.47)	3.80	33.1
E	108	9.33(0.58)	2.15	18.7

Figures in parentheses are standard errors of the means

Toothbrushing with acidulated phosphate-fluoride solutions and gels

Since Berggren and Welander's^{42,43} early studies showing a cariostatic effect from supervised brushing with various fluoride solutions, other investigations,⁴⁴⁻⁴⁹ notably those done in Canada,^{44,45} generally have confirmed the value of this approach to self-application.

Findings of a three year supervised toothbrushing study with acidulated phosphate-fluoride in Sao Paulo, Brazil, have recently been reported.⁵⁰ The study was a cooperative effort of the Centre for Dental Epidemiology and Applied Research, the Pan American Health Organization, the Kellogg Foundation, and the US Public Health Service.

Approximately 1,300 children in grades 7 and 8 who had no exposure to fluoridated water were divided into five comparable study groups:

Group A (controls) brushed their teeth with a commercial, non-fluoride dental prophylaxis paste and then brushed with a flavoured placebo solution.

Group B brushed with the prophylaxis paste and then brushed with a flavoured acidulated phos-

phate-fluoride solution that contained 0.6 per cent fluoride and had a pH of approximately 3.0.

Group C brushed with the acidulate; phosphate-fluoride solution without brushing first with the prophylaxis paste.

Group D brushed with the prophylaxis paste and then brushed with a flavoured acidulated phosphate-fluoride gel that contained 1.23 per cent fluoride at a pH of approximately 3.0.

Group E brushed with the acidulated phosphate-fluoride gel without brushing first with the prophylaxis paste.

The brushings were carried out five times during each school year at approximately two month intervals. Thus, a total of 15 brushings were scheduled during the investigation.

At each treatment, children were provided with a paper tray that contained a soft, natural bristle toothbrush, a cup for expectorating, a plastic apron, and either one of the test agents or the placebo in a coded plastic container. Children in Groups A, B and D received, in addition, a small portion of dental prophylaxis paste and a container of water. After each treatment, the toothbrushes were given to the children for home use; all other materials were disposed.

The cost of materials for the series of five treatments each school year was approximately \$2.40 per child.

Non-professional personnel were trained to supervise the treatments. Each supervisor instructed and supervised no more than 15 children at a time. In a school day of approximately seven hours, usually about 150 children per supervisor treated themselves.

Table 3 compares incremental DMF surface findings, according to group, after one, two and three years of study for the 566 children present for all examinations. During the three years of treatments, children in the control group averaged nearly 11½ new DMF surfaces. In terms of the number of surfaces protected per child, those in the treated groups averaged from slightly more than two (group E) to nearly four (group D) fewer DMF surfaces during the three year period. The percentage reductions in mean incremental DMF surfaces of each of the test groups as compared with the control group ranged from 19 to 33 per cent. Interim findings after one and two years, and after five and 10 treatments, respectively, also showed apparent protection to children in the test groups compared with the controls. After each year of investigation, children in group D who brushed with the prophylaxis paste and then applied the APF gel had the smallest DMF surface increment, compared with the other study groups. The differences from the controls in treatment groups B, C and D were statistically significant at the 0.01 level. The difference of 2.15 mean DMF surfaces between group E and the controls was not statistically significant. However, the value closely approached the critical difference of 2.18 required for statistical significance at the 0.05 level. None of the differences between any of the treatment groups was statistically significant.

Because children frequently do a better job of brushing certain more accessible areas of the mouth than others, a self-administered toothbrushing method of fluoride application might tend to favour certain groups of teeth and surfaces. This potential limitation of the method is not borne out by the findings; the treatments were generally effective on all types of teeth and surfaces that had a measurable caries increment.

It is disappointing that protection at the 0.05 level of significance could not be detected in this study for children in group E who brushed with the gel alone because, of all the treatment procedures, it was the simplest to supervise and easiest for the children to self-administer. Formulating the fluoride in a gel permitted easy packaging, handling and application to the teeth via a toothbrush. Moreover, eliminating the prophylaxis

avoided the time-consuming and messy job of having to clean the brush and mouth of all paste before applying the gel.

Results of our first self-administration study in New Orleans, similar in design to the Brazilian investigation, were reported in 1970.⁵¹ After two years, the investigators observed no dental benefits for children brushing with acidulated phosphate-fluoride. There were, however, noncontrollable, important variables in the two programs, such as the quality of the brushing sessions, exposure of the study population to other sources of fluorides and level of dental care. Imbalances in these variables may partly explain how a limited but real treatment effect observed at one study can be obscured at another with the same preventive procedure.

Compared with the results from supervised toothbrushing with fluorides five times per year, equal, if not greater benefits have generally been reported when fluorides have been self-applied weekly or fortnightly by mouthrinsing. Although the toothbrushing technique requires fewer applications than the mouthrinsing procedure, toothbrushing entails purchasing more supplies, is less easy to supervise and more difficult for children to accomplish effectively. It can be argued that a toothbrushing procedure has educational value and may have an effect on improving gingival health. Educational benefits from an infrequent, supervised toothbrushing, however, remain to be demonstrated. Considering all aspects, toothbrushing, as a method of self-administration of fluoride, cannot be recommended as readily as mouthrinsing for use in large-scale, public health programs.

Toothbrushing with a stannous fluoride-zirconium silicate prophylaxis paste

Muhler, in 1968, published an encouraging summary of several unpublished pilot studies with a self-administered zirconium silicate prophylaxis paste containing 9 per cent stannous fluoride (Zircate Treatment Paste).⁵² To provide additional data on the effectiveness of this therapeutic agent, in 1969 we agree to participate in an evaluation of a county-wide program dubbed "Operation Brush-in" in Santa Clara County, California. The program was initiated under the auspices of the Santa Clara County Research Foundation, the Santa Clara County Health Department and the Indiana University Research Foundation. Children in the program, numbering more than 250,000, annually brush their teeth with Zircate Treatment Paste in

school under the supervision of a dentist or dental hygienist.

To evaluate the benefits of the procedure, approximately 600 children in grades 5 through 8 received baseline examinations prior to the start of the program. Two examiners, one from Indiana University and the other from the US Public Health Service, independently examined the entire study population for caries, using both radiographic and visual methods of diagnosis. Children were then randomly assigned to one of two study groups: children in the test group received Zircate Treatment Paste and those in the control group received a placebo paste consisting of zirconium silicate without stannous fluoride. As originally designed, applications in the three year study were to be made annually. However, because it was believed that the first treatments may not have been supervised adequately, a second treatment application was made mid-way during the first year of study. First and second year follow-up examinations have been made by both examiners. A report summarizing the one year findings was submitted to the Santa Clara Research Foundation in May 1971. As of this writing, it has not been released.

Since the initiation of the Santa Clara study, the first full reports of studies with the Zircate Treatment Paste have appeared in the literature. Muhler and others evaluated the agent's effectiveness on a group of children in the Virgin Islands.⁵³ Participants gave themselves a single self-application with test or placebo paste under the supervision of a dentist or dental hygienist. After one year, those children who brushed with the stannous fluoride-zirconium silicate prophylaxis paste developed an average of 1.24 fewer DMF surfaces than children in the control group. The reduction of 64 per cent in new DMF surfaces was statistically significant despite a particularly large loss of subjects in the test group.

Gunz⁵⁴ carried out a study to evaluate further the paste's decay preventive properties. Children in the test group self-applied the stannous fluoride-zirconium silicate paste according to the recommended technique. A supply of zirconium silicate paste without stannous fluoride was provided by Indiana University for use by children in the control group. Fourteen months following a single self-application, incremental DF scores of children in the test and control groups were the same for all practical clinical purposes, 2.38 and 2.58 surfaces, respectively.

In addition to these two reports, Mercer and Gish⁵⁵ in a 1970 abstract gave 36 month results of two self-application studies with the Zircate Treatment Paste, one conducted in a fluoride area and the other in a non-fluoride area. Placebo and test

groups in each community brushed with their assigned paste at the beginning of the study and at six month intervals. For both examiners combined, the reduction in incremental DMF surfaces in the optimally fluoridated community was 25 per cent. The corresponding figure in the non-fluoride community was 37 per cent. The date and details of these studies, however, have yet to be published. Thus, positive findings of the initial clinical studies on the effectiveness of annual or semi-annual self-applications with a stannous fluoride-zirconium silicate paste emanating from Indiana University remain to be replicated. Results of additional independent evaluations are needed.

Despite the lack of confirmatory evidence, "Operation Brush-in" programs using various fluoride-containing pastes are being actively promoted in several localities in the United States. Their proponents offer the following rationale for the programs:

1. They provide dental health personnel with an entrée into the school and the community, thereby helping to establish rapprochement.
2. They create an awareness of dental health among active participants.
3. Instruction in proper toothbrushing technique embodied in the program can help the child remove oral debris and plaque more effectively, thus leading to a reduction in gingivitis.
4. These real or hoped-for benefits are justification in themselves for adopting the procedure, even if no caries-preventive effects are achieved.

This rationalization hardly can be accepted as justification. To recommend a procedure for caries control without initially having adequate proof of efficacy, violates the principles underlying scientific public health programs. Moreover, it is doubly wrong to do so when alternatives of proven efficacy exist.

Conclusion

School fluoridation and self-administration of fluorides are viable alternatives to community fluoridation in areas without central water supplies. Problems of insufficient professional manpower and excessive costs that currently hinder preventive dental health programs are minimized by these measures. Further studies are needed to develop the procedures of school fluoridation and self-administration of fluorides to their optimum potentials.

The authors are with the Caries Prevention and Research Branch, National Institute of Dental Research, National

This paper was presented by Dr. Heifetz at the Seventh Biennial Conference on Canadian Dental Research, June 12-14, 1972, Geneva Park, Ontario.

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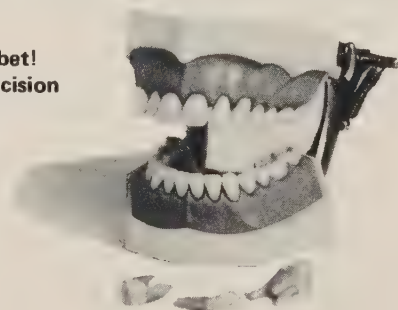


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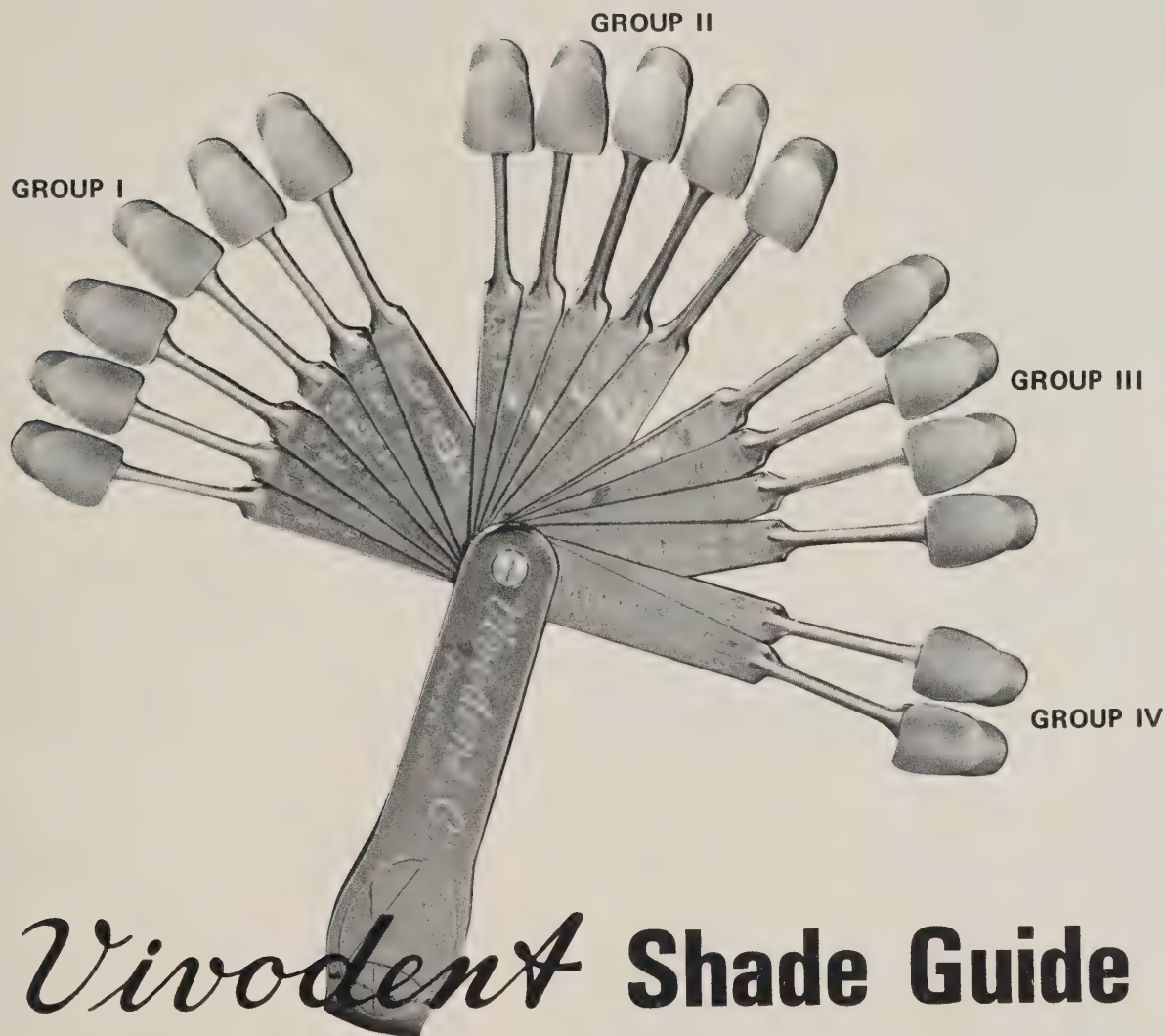


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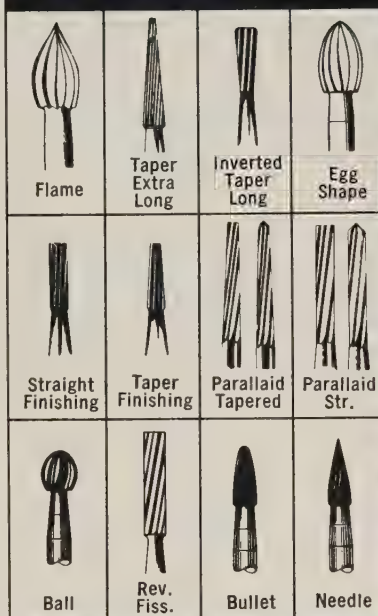
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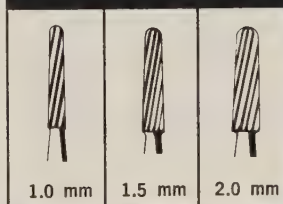
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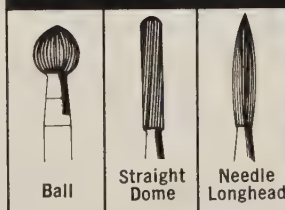
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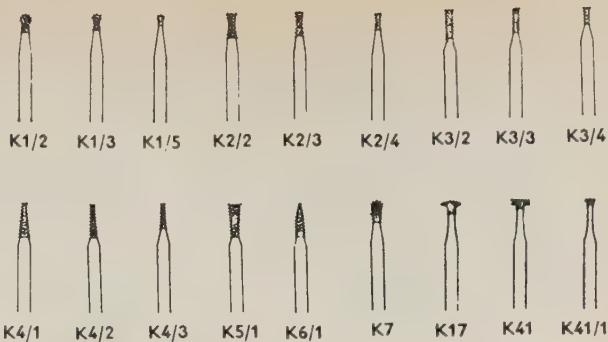
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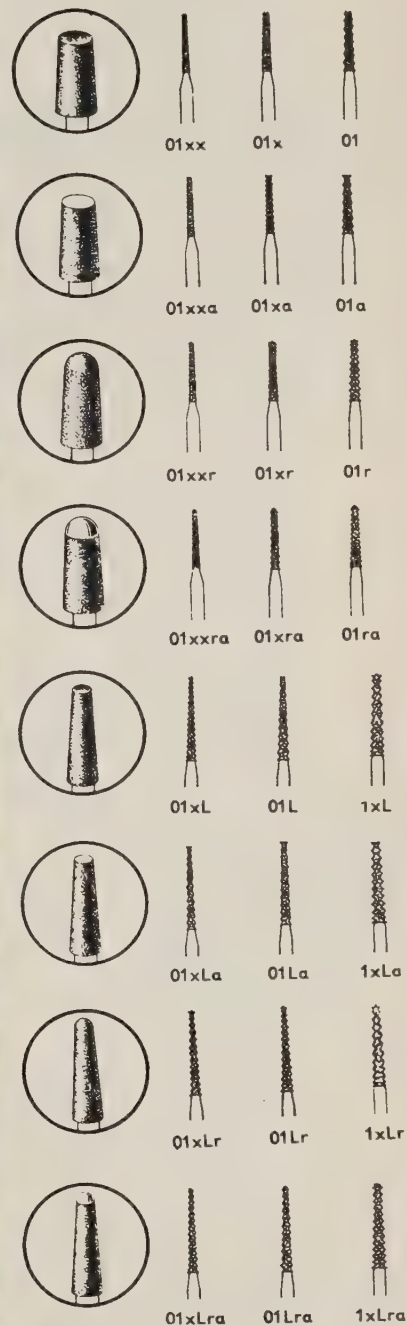
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Cooke-Waite Laboratories Limited	110-11
Cooper Laboratories Limited	88
Denco	84
Dentsply International	80, 90, 112, 135
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IMPORTANT: This form is to be completed by those desiring advance registration and accommodation in Toronto during the forthcoming convention. Please mail the complete form, and, where applicable, your cheque for \$50.00, to the CONVENTION BUREAU at the above address. **To receive your choice of accommodation, and first option on tickets to social events, register early! Preregistrations will not be accepted after the end of August, 1974.** After August 31, please make your accommodation

arrangements directly with the hotel of your choice, and register at the convention registration facilities in the Four Seasons Sheraton Hotel, upon your arrival. Ticket sales, major social events and commercial exhibits will also be at the Four Seasons Sheraton Hotel. The general scientific sessions will be at both the Four Seasons Sheraton and the Downtown Holiday Inn. The two hotels are quite close to one another, and each is the largest in its respective world wide hotel chain.

Please PRINT or TYPE requested information:

DATE: _____

NAME: _____ If wife attending, name: _____
 surname given names

ADDRESS: _____

Executive or honorary status in provincial, state, national, or international organizations,

Specify: _____

Group affiliation: (e.g. CDA Section (specify), or Exhibitors)

Please indicate first, second and third choice of hotel accommodation in column entitled Choices.

CHOICES

- # _____ Four Seasons Sheraton
_____ (Downtown) Holiday Inn
_____ Hyatt Regency Toronto
☐ Accommodation not required

- ☐ Single
☐ Double Bed
☐ Twin Bed
☐ Suite (Specify Type)

ARRIVAL DATE _____

TIME _____

DEPARTURE DATE _____

TIME _____

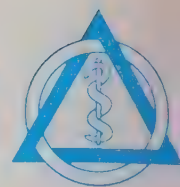
NOTE: Hotels will not normally hold a room beyond 6 p.m. unless a later time is specified.

The registration fee for dentists is \$50.00. Dentists' wives may register without charge, as may exhibitors. Make your cheque payable to CDA National Conventions.

REGISTRATION

CDA
ADC

CONGRES NATIONAL
TORONTO
1818-19 SEPTEMBER 1974
CONVENTION



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE

1818-19 SEPTEMBER 1974 / 18-19 SEPTEMBRE 1974

IMPORTANT: Cette formule doit être remplie par tous ceux qui désirent s'inscrire à l'avance et retenir une chambre pour le prochain Congrès qui aura lieu à Toronto. Veuillez retourner cette formule dûment complétée ainsi qu'un chèque de \$50.00, au BUREAU DU CONGRÈS, à l'adresse ci-dessus. **Les meilleures chambres iront aux premiers inscrits! Les inscriptions prioritaires ne seront pas acceptées après août 1974.** A partir du 31 août, vous devrez faire vos réservations directement avec l'hôtel de votre choix et

vous inscrire aux guichets d'inscription du Congrès, à l'Hôtel Four Seasons Sheraton, à votre arrivée. Les expositions commerciales et la plupart des réunions des sections auront lieu aussi à l'Hôtel Four Seasons Sheraton. Les séances scientifiques générales auront lieu aux deux Hôtels Four Seasons Sheraton et le Downtown Holiday Inn. Ces deux hôtels qui serviront de centre principal sont très près l'un de l'autre, et font respectivement parti d'une chaîne d'hôtel mondiale.

Veuillez écrire en LETTRES MOULÉES:

DATE: _____

NOM: _____ Nom de l'épouse si elle doit venir: _____
nom de famille prénoms

ADRESSE: _____

Fonction ou rang honoraire dans un organisme provincial, national, international ou d'état,

Précisez: _____

Appartenance à un groupe, précisez: (par ex. Section de l'ADC ou Exposants)

Veuillez indiquer vos trois premières préférences dans les listes intitulées Choix.

CHOIX

- # _____ Hôtel Four Seasons Sheraton
_____ Hôtel Holiday Inn (Centre-Ville)
_____ Hôtel Hyatt Regency Toronto

- ☐ Lit simple
☐ Lit double
☐ Lits jumeaux
☐ Suite (Spécifiez le genre)

ARRIVÉE, Date: _____
Heure: _____
DÉPART, Date: _____
Heure: _____

☐ CHAMBRE NON REQUISE

AVIS: Normalement les hôtels ne retiennent pas une chambre après 6 p.m. exception faite sur demande.

Le prix d'inscription pour les dentistes est de \$50.00. Inscription gratuite pour les femmes des dentistes et les exposants. Rédigez votre chèque à l'ordre du Congrès National de l'ADC.

TORONTO DENTIST CHOSEN FOR ACUPUNCTURE COURSE IN CHINA

Dr. Robert S. Locke, University of Toronto, will visit China for six weeks in early April for instruction and training in acupuncture analgesia and anaesthesia, as part of an official 10-member medical-dental team. Dr. Locke is Professor and Chairman, Department of Anaesthesia, Faculty of Dentistry.

On his return, Dr. Locke will teach acupuncture techniques to other dentists and students, for eventual use on Canadian patients.

Interviewed by the Journal, Dr. Locke said, "One of the stipulations in accepting this trip, is that I immediately embark on a plan to make my training available to faculties of dentistry across Canada - and I certainly intend to do just that."

Both the professions and the federal government have stated a preference for having acupuncture initially performed only by doctors and dentists. If the technique proves worthwhile in Canada, it could eventually be practised by licensed acupuncturist technicians.

This will be Dr. Locke's second trip to China. In 1972, again under the auspices of the federal government, he gave a paper to the Chinese Medical Association on North American concepts of anaesthesia.

MANITOBA WOULD INCREASE GRANT ON CONSTRUCTION OF NEW OTTAWA BUILDING

The Annual Meeting of the Manitoba Dental Association has voted to give favorable consideration to paying an increased grant of \$15 per dentist to the Canadian Dental Association, upon start of new, national headquarters construction in Ottawa.

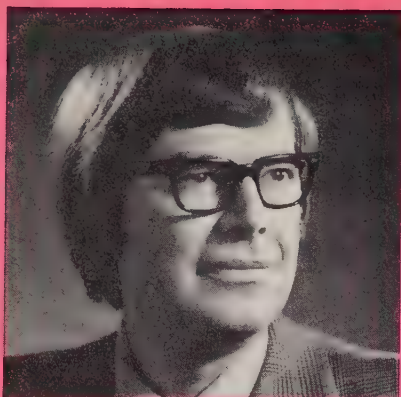
The resolution noted that the interests of Canadian dentistry would best be served by having the national headquarters in Ottawa and that the present Ottawa property will be forfeited if construction is delayed beyond February 1976. Since every year's delay escalates costs by approximately 10 per cent, the motion gave the MDA's full support to construction at the earliest possible date.

The motion encouraged other corporate members to give support similar to the MDA's proposed grant increase.

NDEB MAKES GRANT OF \$8,000

President D.B. Proctor, of the National Dental Examining Board, has presented a cheque to the Canadian Dental Association for \$8,000 as its grant for 1974. This is a substantial increase over the previous year, and is the largest ever made to the Association by the NDEB.

NDEB grants are discretionary and are applied to the accreditation of undergraduate dental programs, as organized by the Association's Council on Education.



NEW EXECUTIVE DIRECTOR AT ODA

The appointment of John Gillies, as Executive Director of the Ontario Dental Association has been announced. Mr. Gillies takes up his new position with an extensive background in the health field and broad experience in negotiations with government. For the past three years, he was registrar of the Canadian Memorial Chiropractic College in Toronto. Previously, he operated a family business in Wheatley, Ontario.

Mr. Gillies holds a Bachelor of Arts degree from Waterloo Lutheran University.

POSSIBLE EXPANSION OF CDA CARIBBEAN PROGRAM

Dr. G.E. Burgman, Chairman of the CDA Caribbean Dental Program, has reported to CDA and the Canadian International Development Agency, Ottawa, on inspection tours this winter to Haiti and Dominica. Both have requested volunteers. If approved for inclusion in the CDA Caribbean Program more volunteer-dentists than usual will have to be recruited.

Dr. Burgman also visited St. Lucia and Montserrat where Canadian dentists currently take assignments.

Dentist-volunteers are unpaid but have air fare paid by the Program, while the host country pays living expenses. Assignments are short-term, usually for one month. Volunteers are briefed ahead of time so they are knowledgeable about policies, traditions, attitudes and religious practices on the island to which they are assigned.

Interested? Enquiries are being welcomed now by Dr. G.E. Burgman, 5709 Main Street, Niagara Falls, Ontario.

QUEBEC REAFFIRMS CDA MEMBERSHIP

The November editorial of the Ontario Dentist stated, "Dentists in the Province of Quebec may now join the Canadian Dental Association in an individual and voluntary way. Membership is no longer automatic or compulsory as a result of recent government legislation."

This factual error has been recently compounded as both readers and some other dental editors pick up and repeat the information. Association members have been lead to draw erroneous conclusions concerning the significance of the Quebec situation.

Dr. Sidney Silver of the College of Dental Surgeons of the Province of Quebec (now Order of Dentists of Quebec) wrote the Ontario Dentist to correct the editorial, stating "In fact, Quebec dentists are still members of the CDA under the original conditions and will remain so for another year and a half. The College made every effort to notify the CDA well in advance of implementation of legislation of the changes, in order to permit a smooth and orderly transition and presented a plan which hopefully would not materially change the revenue from Quebec, notwithstanding voluntary membership."

QUEBEC RECONFIRME SON ADHESION A L'ADC

L'on affirme dans l'éditorial de la livraison de novembre de l'Ontario Dentist: "Les dentistes de la province de Québec peuvent maintenant faire partie de l'ADC à titre individuel et sur une base volontaire. A la suite de la législation gouvernementale, leur adhésion à l'ADC n'est plus automatique et obligatoire". Cette fausse interprétation a confondu à la fois les lecteurs et plusieurs autres éditorialistes de revues dentaires. Les membres de l'Association ont de ce fait mal interprété la situation au Québec.

Le docteur Sidney Silver du Collège des chirurgiens dentistes de la province de Québec (maintenant l'Ordre des dentistes du Québec), a fait parvenir une lettre à l'Ontario Dentist afin de rectifier les faits: "En réalité, les dentistes du Québec sont encore membres de l'ADC selon les mêmes conditions qu'auparavant et le demeureront encore pendant un an et demi. Le Collège a tenu périodiquement l'ADC au courant des changements de législation afin d'assurer la transition sans heurt. Le CDCPQ a présenté un plan qui, suivant toute probabilité, n'apportera pas de changements des fonds en provenance du Québec, même si l'adhésion est volontaire.

LE MANITOBA EST DISPOSE A AUGMENTER SA CONTRIBUTION AU FONDS DE CONSTRUCTION DE L'EDIFICE D'OTTAWA

L'Assemblée générale annuelle de l'Association dentaire du Manitoba a voté en faveur d'une augmentation de \$15 de la contribution par dentiste à l'ADC à la condition que débutent les travaux de construction du nouvel édifice.

La résolution spécifie que les intérêts de la profession seront mieux servis si les quartiers généraux sont situés à Ottawa et que l'actuelle propriété sera confisquée si la construction ne commence pas avant février 1976.

Comme l'augmentation annuelle des coûts est de l'ordre de 10%, la résolution apporte son entier appui à l'ADM relativement au projet de construction.

La résolution incite de plus les autres membres corporatifs à adopter une attitude similaire.

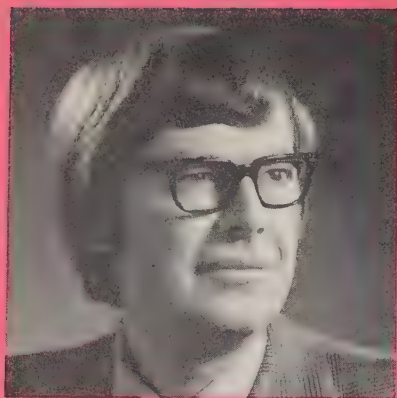
POSSIBILITE DE L'EXPANSION DU PROGRAMME DE L'ADC AUX CARAÏBES

Le docteur G.E. Burgman, président du programme de l'ADC aux Caraïbes a présenté un rapport à l'ADC et à la Canadian International Development Agency d'Ottawa des visites qu'il a effectuées cet hiver à Haïti et à la République dominicaine. Si le projet est approuvé, l'on ajoutera un certain nombre de dentistes volontaires au programme de l'ADC aux Caraïbes.

Le docteur Burgman a aussi fait des séjours à Sainte-Lucie et à Montserrat où des dentistes canadiens vont régulièrement faire des stages.

Les dentistes volontaires ne sont pas rémunérés; leur transport est toutefois assumé par le Programme et les pays qui les reçoivent paient leurs dépenses de séjour. Les engagements sont de courte durée, ordinairement un mois. Avant leur départ, on les met au courant des problèmes politiques, des traditions, du comportement et des attitudes religieuses des habitants des îles où ils seront assignés.

Y a-t-il là matière à intérêt? Le docteur G.E. Burgman conduit une enquête à ce sujet. Son adresse est: 5709 Main Street, Niagara Falls, Ontario.



UN NOUVEAU DIRECTEUR ADMINISTRATIF A L'ADO

M. John Gillies a été nommé directeur administratif de l'Association dentaire de l'Ontario. Il compte une vaste expérience dans le domaine de la santé ainsi que dans celui des négociations avec le gouvernement. M. Gillies a rempli la fonction de registraire du Canadian Memorial Chiropractic College de Toronto au cours des trois dernières années. Auparavant il était en charge d'une entreprise familiale à Wheatley, Ontario.

Le nouveau directeur administratif est détenteur d'un baccalauréat ès-arts de la Waterloo Lutheran University.

LES SOINS DENTAIRES SONT INCLUS DANS LE NOUVEAU REGIME D'ASSURANCE MALADIE DE L'ALBERTA

Un groupe de 150,000 albertains, formé de personnes âgées et d'enfants, bénéficieront de soins de restauration, de chirurgie et de prothèses suivant une échelle d'honoraires déterminée par l'Association dentaire de l'Alberta.

Le comité des négociations de l'Association a consacré plusieurs mois de travail afin d'en arriver à une entente avec les représentants du gouvernement. Les honoraires consenties par l'Alberta Health Care Insurance Commission seront de 90% pour les traitements dispensés d'ici le 30 juin 1974 et de 95% du 1er juillet 1974 au 31 décembre 1975.

Les membres de l'Association qui acceptent ce tarif présenteront leurs réclamations directement à la Commission. Les autres informeront leurs patients qu'ils auront à payer le surplus; ils devront émettre un reçu indiquant en détail les services rendus et les honoraires chargés de telle sorte que le patient pourra être remboursé par la Commission.

Les patients couverts par ce régime pourront recevoir des traitements jusqu'à un montant maximal de \$1,000 pour deux années consécutives. La Commission doit approuver les honoraires dans les cas de ponts postérieurs, de restaurations postérieures en or ou d'orthodontie majeure, de prothèses complètes et partielles.

Le régime ne paiera qu'une fois pour cinq années le coût des prothèses partielles ou complètes confectionnées pour un même maxillaire et une fois pour deux années celui des rebasages.

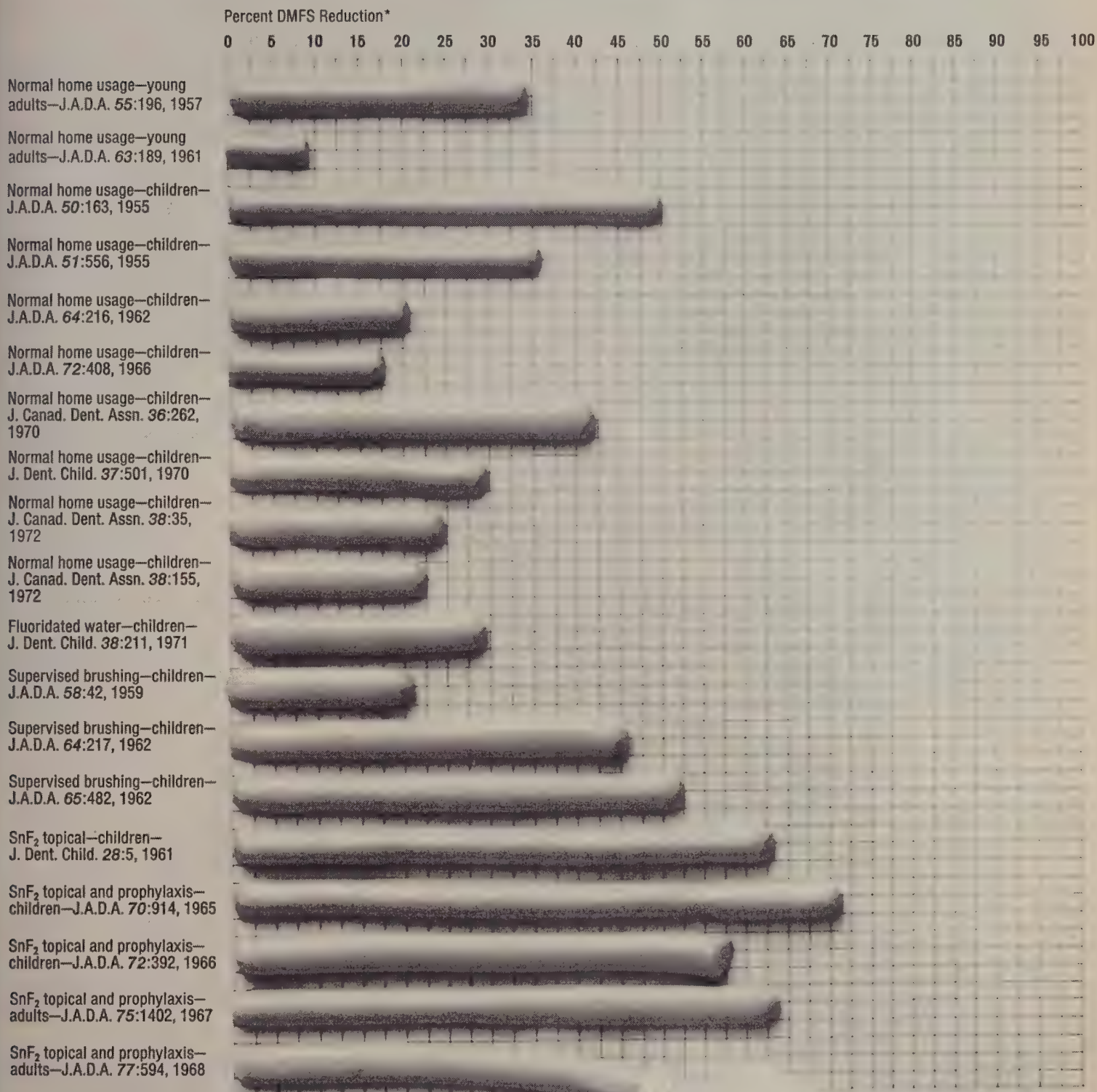
LE BNEDC OCTROIE UN FONDS DE \$8,000

Le président du Bureau national d'examen dentaire du Canada, M. D.B. Proctor, a offert un chèque de \$8,000 à l'ADC comme contribution pour l'année 1974. C'est une augmentation substantielle par rapport à l'an dernier et c'est le plus gros montant jamais consenti par le BNEDC.

Les dons du BNEDC servent d'agrément des programmes dentaires sous-gradués sous l'égide du Conseil de l'enseignement de l'Association.

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* (DMFS) New decayed, missing, or filled surfaces. All clinical studies conducted vs. null control. The control dentifrice was Crest without its stated actives.

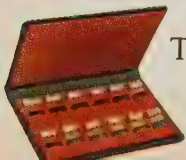
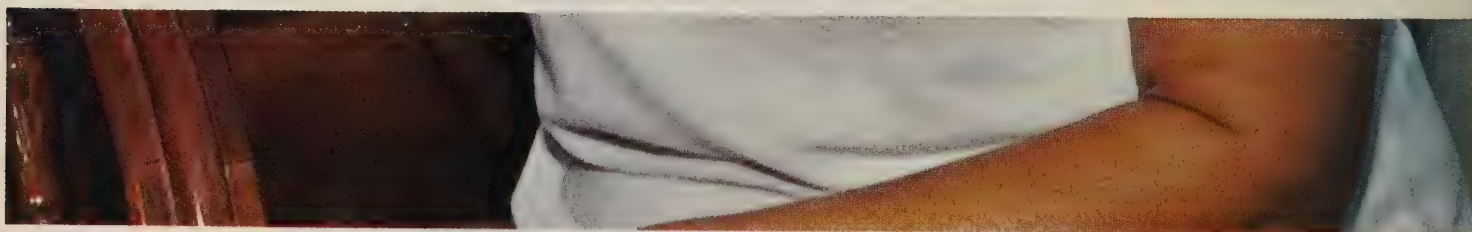
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JOURNAL

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Executive Director's Page	169
Editorials	
The way ahead	167
How are you going to keep them down on the farm?	167
Special Feature	
Thorne Gunn & Co. Report: Purchase vs. leasing	191
Regular Features	
Dentistry in the news	183
Deaths	187
Announcements	163
Articles	
Salivary tumours of the mouth — Main	200
Benign lesions simulating oral cancer — Kennett	203
Clinical features of oral cancer — Spouge	207
The epidemiology of oral cancer — Miller	211
Oral biopsies and cytological smears — Bentley	218
Treatment and survival in oral cancer — Burkell	221
White lesions of the oral mucosa — McMurphy	226
Classified advertising	231
Advertisers' index	238
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Veuillez nous prévenir avant le 10^e du mois de tout changement d'adresse pour recevoir le Journal à votre nouvelle adresse le mois suivant.

Abonnement: Abonnés de l'Amérique du Nord (inclure Des Antilles et l'Amérique centrale) — \$10 (Canadiens) par année; abonnés européens et autres — \$15 (Canadiens). Pas de rabais aux libraires et aux agences. Abonnements payables le premier janvier. Les nouveaux abonnés voudront bien attendre de recevoir la facture avant de faire remise.

La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.



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1. Wiesenbaugh, J.M., Jr. (Mar., 1971). 31(3):302.

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DOSE AND ADMINISTRATION

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Mild to moderately severe infections: 150 mg (one
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Children (over one month of age)
Average infections: 10 mg/kg/day (5 mg/lb/day)
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Severe infections: 16 mg/kg/day (8 mg/lb/day) or
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Average infections: 12 mg/kg/day (6 mg/lb/day)
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Severe infections: 20 mg/kg/day (10 mg/lb/day)
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Absorption of Dalacin C is not appreciably modified
by ingestion of food and Dalacin C may be taken
with meals with no significant reduction of the
serum level.

Note: With β -haemolytic streptococcal infections,
treatment should continue for at least 10 days to
diminish the likelihood of subsequent rheumatic
fever or glomerulonephritis.

Cautions: Generally well tolerated. Usual anti-
biotic side effects - abdominal discomfort, loose
stools or diarrhoea, nausea, vomiting. Transient
leukopenia (leukopenia), or abnormalities in liver
function tests have been observed in a few instances.
Mild hypersensitivity reactions (skin rash and urti-
caria) have been observed on rare occasions.

Use with caution in patients with a history of asthma
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and 100.

Paediatric Granules - When the contents of the
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cated on the label, each 5 ml contains clindamy-
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Announcements/Avis

*Information about other meetings or
courses, including American continuing
education courses, may be obtained
by writing to CDA headquarters.*

Canadian Dental Association

1974 Toronto, Ont, Oct 6-9

Complete details available from regis-
tration form. See last page.

1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14

1975 Chicago, USA, Oct 26-30

Royal College of Dentists of Canada

Part I Examinations (Basic Sciences)
June 24, 1974. Applications and \$100
fee must be received before Mar 31,
1974.

Part II Examinations (Oral) Dec. 6-7,
1974. Eligibility is based on successful
completion of the Part I Examina-
tions, plus submission of required case
histories, and the lapse of five years
since the candidate began his graduate
training. Written intent to sit this
examination with \$100 examination
fee must be received before Mar 31,
1974.

Application forms for the Part I
Examinations and further information
may be obtained from J. E. Speck,
Secretary-Registrar-Treasurer, Suite
614, 170 St. George St, Toronto, Ont.
M5R 2M8.

Canadian Meetings

**American Society of Preventive
Dentistry (Ontario Chapter)**, at Inn on
the Park, Toronto. Apr 19, 1974. B.
Garshowitz, 229 Yonge St, Ste 213A,
Toronto, Ont M5B 1N9.

Quebec Dental Surgeons Association,
at Bonaventure Hotel, Montreal. May
1-3, 1974. Mr. de Bastien, 4290 Beau-
bien St E, Montreal 409, Que.

**College of Dental Surgeons of British
Columbia**, at Hyatt Regency, Van-
couver. May 1-4, 1974. K. L. Croft,
Suite 325, 925 W Georgia St, Van-
couver 1, BC.

**College of Dental Surgeons of Sas-
katchewan**, at Moose Jaw. May 2-4,
1974. R. G. Tessier, 310 Hammond
Bldg, Moose Jaw, Sask. S6H 3K1.

**Ontario Chapter, Canadian Society of
Dentistry for Children**, at Four
Seasons-Sheraton Hotel, Toronto. May
12, 1974. A. F. Dungey, Ontario Crip-
pled Children's Centre, 350 Rumsey
Rd, Toronto 350, Ont.

Atlantic Provinces Dental Convention,
at Dalhousie Arts Centre, Halifax. May
12-15, 1974. Dr. T. D. Ingham, P.O.
Box 604, Halifax, NS.

Ontario Dental Association, at Four
Seasons-Sheraton Hotel, Toronto. May
12-15, 1974. Mrs. W. C. Durham, 230
St. George St, Toronto, Ont. M5R
2P1.

Alberta Dental Association, at Palliser
Hotel, Calgary. May 30-31, 1974. J. R.
Duncan, 306, 1711-4th St. S.W., Cal-
gary, Alta.

**Sixth International Conference on Oral
Biology**, At Toronto, June 3-5, 1974.
G. S. Beagrie, Faculty of Dentistry,
124 Edward St., Toronto, Ont. M5G
1G6.

Canadian Public Health Association, at
the Arts and Culture Centre, St.
John's, Nfld. June 17-20, 1974.
CPHA, 1255 Yonge St, Toronto, Ont.
M5T 1W6.

**The Association of Canadian Faculties
of Dentistry/L'Association des Facul-
tés Dentaires du Canada**, at Digby
Pines, Digby, Nova Scotia. June 20-21,
1974. Dr. G. W. Myers, 3036 Dentis-
try/Pharmacy Centre, University of
Alberta, Edmonton, Alberta, T6G
2H7.

Northern Ontario Dental Association, at North Bay, Ont. Sept 6-8, 1974. R. C. Weegar, 539 Cassells St, North Bay, Ont.

Canadian Association of Orthodontists, at Toronto, Sept 28, 1974. J. J. Schachter, Box 952, Saskatoon, Sask.

Canadian Academy of Periodontology, at Hyatt Regency Hotel, Toronto. Sept 29-30, 1974. J.D. Stewart, 311 Rubidge St., Peterborough, Ont. K9J 3P3.

Canadian Society of Public Health Dentists, at Windsor, Ont. Oct 2-5, 1974. J. M. Conchie, 14265 - 56th Ave, Surrey, BC.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd., Ste 810, Toronto, Ont.

Canadian Academy of Oral Radiology, at Toronto. Oct. 6, 1974. D. W. Stoneman, Dept. of Radiology, Faculty of Dentistry, 124 Edward St., Toronto M5G 1G6.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov 18-20, 1974. Miss M. Komarnicka, 4166 St. Catherine St W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov 28, 1974. Mrs. P. Williams, 230 St. George St, Toronto, Ont. M5R 2P1

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975. J. Bradey, 320 Eramosa Rd, Guelph, Ont.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W. C. Durham, 230 St. George St, Toronto, Ont, M5R 2P1.

Western Canada Dental Society, at Saskatoon. June 11-15, 1975. J. C. Horn, 101-230-20th St. E., Saskatoon, S7K 0A6.

International Meetings

American Association of Orthodontists and American Academy of Periodontology, at St. Louis. March 25-26, 1974. American Association of Orthodontists, 7477 Delmar Blvd, St. Louis, Mo. 63130, USA

Prosthodontic Society of South Africa, at Johannesburg, S. Africa. Apr 1-5, 1974. Congress Secretary, Private Bag 1, Houghton, Transvaal, S Africa.

German Dental Congress, at Hamburg, Germany. Apr 15-28, 1974. Bundesverband der Deutschen Zahnärzte e.V. 5 Köln 41, Postfach 410168, Germany.

International Congress of Maxillofacial Radiology, at Kyoto, Japan, April 18-21, 1974. Secretariat, International Congress of Maxillofacial Radiology, Gifu College of Dentistry, P.O. Box 2, Hozumi, Gifu 501-02, Japan.

International Conference on Oral Surgery, at Madrid, Spain. Apr 21-25, 1974. International Conference on Oral Surgery, PO Box 46078, Madrid, Spain.

International Congress on Dentistry for the Handicapped, at Amsterdam, Holland. Apr 22-24, 1974. M. M. Album, Medical Arts Bldg, Hillside Ave and York Rd, Jenkintown, Pa 29046; USA.

American Academy of Oral Pathology, at the Fairmont-Roosevelt Hotel, New Orleans. April 29 - May 3, 1974. G. G. Blozis, College of Dentistry, Ohio State University, Columbus, Ohio 43210, USA.

Asian-Pacific Dental Congress, at Jakarta, Indonesia. June 18-22, 1974. Dr. Yetty Rizali Noor, Faculty of Dentistry, Trisakti University, Grogol, Jakarta, Indonesia.

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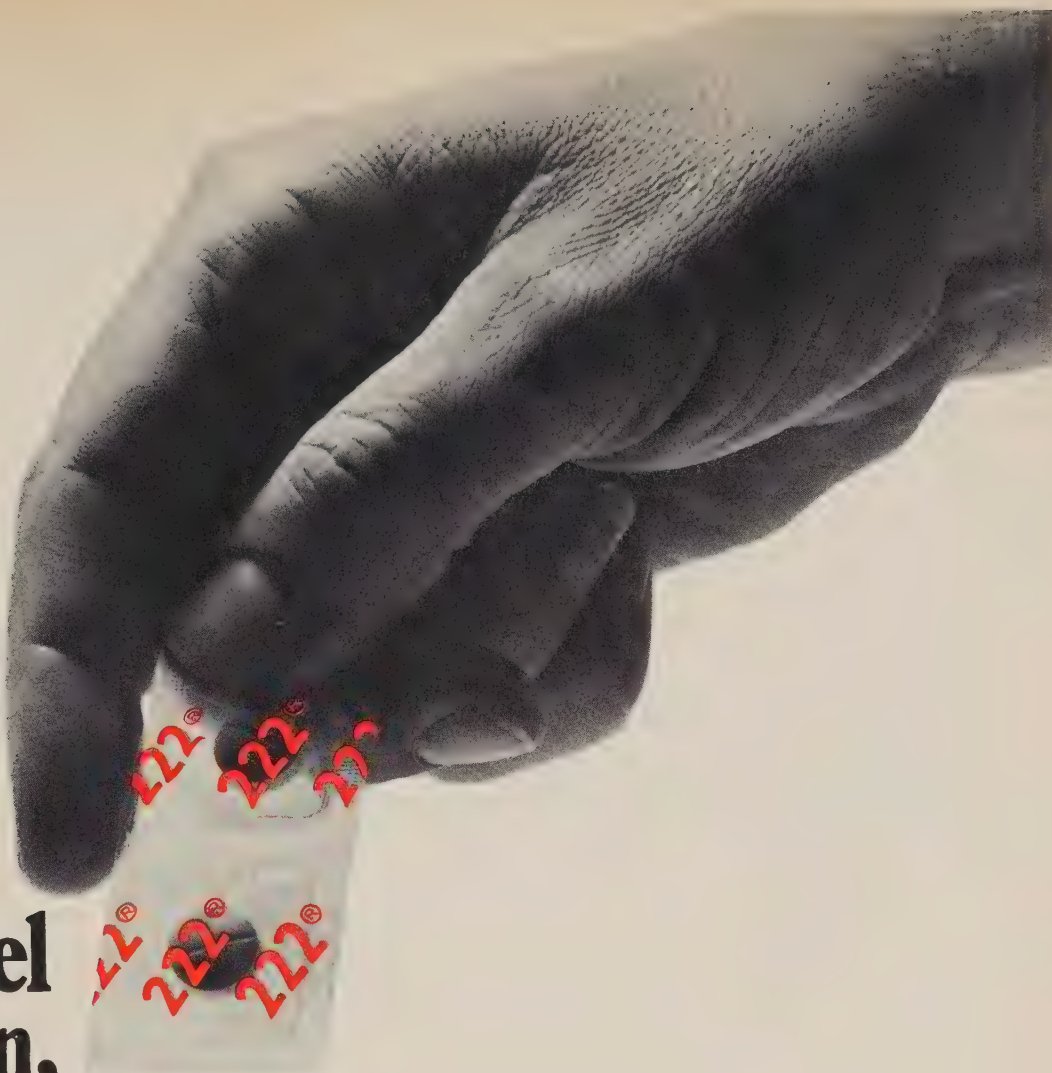
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EDITORIAL

How are you going to keep 'em down on the farm?

Health manpower studies conclude, with monotonous uniformity, that while there may or may not be a shortage of workers, there is a distribution problem. All health professionals tend to concentrate themselves in the large urban centres. The researchers thereupon usually follow up with the disclosure that this deplorable situation arises from failure on the part of the dental schools to select students with a proper motivation for public service. Or they say that too many students come from urban backgrounds and do not adjust well to rural life, or again, that when students who are too academically inclined are selected they all want to be specialists, who have to set up in larger communities.

Hogwash! Why is it that no-one seems to have enough brains, belly or brass to point out two obvious reasons why many dentists or physicians head for the city? The first is that, in a small community where everyone knows everyone else, the professional cannot close the door of his office and go off duty in the way that the city doctor does when he locks up and drives to his home in the suburbs. The second is that the professional's financial affairs are much more visible in the small town where everyone is a patient, so that a standard of living comparable to the big city practitioner may seem to be obtained at the personal expense of one's neighbors and fellow businessmen. Fees are generally lower in rural areas for this reason, yet the cost of equipment, supplies, electric power and telephone are the same for all.

We suggest that further sociological studies may be abandoned before they start. Just find ways for the rural dentist to enjoy some private social life sometimes without even one patient reminding him in front of everyone present that cold water still hurts his tooth. Make it possible for him to earn enough to be able to send his own children to college, to afford the donations to every worthwhile cause that a professional is expected to support, and put something aside for his own old age, without being made to feel guilty because the money comes from his neighbors. If these two problems can be resolved, dentists and physicians will jam

the highways seeking happy escape from urban pollution, traffic hazards, high rents and noise.

Many practitioners have obviously learned to cope with the peculiar problems of rural practice. We invite them to take their pens in hand and tell the others how they do it.

R.M.G.

The way ahead

Our congratulations and thanks to the seven authors who contributed their time and knowledge to this month's compendium, *Cancer of the Mouth*. We also wish to praise the efforts of Dr. J. Main for planning and co-ordinating the project, and of Dr. Frank Compton, scientific editor. We acknowledge too that the Canadian Cancer Society assisted with the costs of publishing this special.

Some of our readers may react negatively to dedication of the whole issue to cancer of the mouth, on the grounds that their interest is in "real dentistry," i.e. such things as restorative dentistry. But the very life of the next patient any dentist in Canada sees may depend on that dentist's ability to recognize a dangerous lesion while there is still time for treatment. And let us face it, our profession will someday have to decide to live in one world or another — it can't live in two. If, as it appears, there are going to be all sorts of auxiliaries performing many of the traditional dental technical services, then strap on your crampons, grab your ice-axe, and rope yourselves together, because our professional future lies high up there on a new educational level. We, as a professional group, are going to have to climb up there and learn to practise oral diagnosis, oral medicine and oral surgery in a way to which we only aspired previously. The alternative is a pathetic drift into economic competition with our own auxiliaries.

Thus continuing education assumes truly vital importance for every graduate. Supervision of auxiliaries will call for acquisition of new skills, greater mastery of dental science, and even of management and administration. For most of us the only way up is by the path of continuing education. One good step upward would be for every dentist to read, re-read and master the material presented on cancer of the mouth. R.M.G.

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EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

CONTINUING SERIES ON CDA SERVICES

Insurance and Investment Programs

Among the more direct services offered by the Association for its members are the group protective coverages and investment opportunities available through the efforts of its Insurance and Investment Council. The Council members are elected by the Board of Governors. They are charged with the responsibility of working with insurance and investment houses to develop insurance and investment plans specifically designed to meet the needs of dental practitioners. After approval by the Board of Governors, these plans are made available to Association members through the offices of Canadian Dental Service Plans Incorporated, an independent, non-profit service and administrative agency set up and controlled by dentists. The sole purpose of CDSPI is to serve the dental profession by providing this accounting facility. It is engaged by the Association on a fee-for-service basis.

The Insurance and Investment Council maintains an ongoing vigilance over the plans it recommends. It compares the Association's plans with others that are available. It uses its influence as a group purchaser to negotiate on behalf of the plan participants. It employs the expertise of its members to identify and include in the plans, items of special importance to dentists. As a result, the Association's plans are unique.

Chief advantages to participants in Association-sponsored plans are that:

- plans are kept under constant review and appropriate changes introduced

- plans are specifically designed to meet the needs of dentists
- insurance programs include a retention factor which provides for premium reductions or other benefits based on plan experience
- costs are reduced because of group purchase. The larger the number of participants, the greater the potential for reducing costs
- costs are further reduced as a result of employing a non-profit accounting facility
- a free consulting service is provided by CDSPI personnel, who spend 100 per cent of their time working with plans for dentists and are, therefore, more knowledgeable in this area than most
- all legitimate claims receive Association support
- insurance coverage is available to individual dentists who might otherwise not be eligible for insurance protection
- all a dentist's insurance needs are handled through a single office. The Association's objective is to make available a complete insurance package
- there is guaranteed life coverage, regardless of medical history, available to undergraduate dental students and recent graduates

The present National/Provincial Insurance programs that are available to Association members include the following plans which may be purchased separately or as a package where applicable:

1. Undergraduate life programs
2. Graduate group life programs

3. Group liability (malpractice) including auxiliaries
4. Income protection programs
5. Office overhead expense coverage
6. Blue Cross extended health care
7. Accidental death and dismemberment coverage
8. Adjustment Income Dollars plan (AID)
9. General Insurance (home, office, etc.)

In all, more than 7,000 Canadian dentists and dental students are currently participating in one or more of these plans.

The Association's registered retirement savings plan offers the investor three alternatives:

1. A guaranteed fund in which the investor's deposit is guaranteed and only the rate of interest varies
2. A fixed income fund, primarily consisting of government and corporate bonds and prime mortgages
3. A common stock fund.

The Association's group purchasing potential has resulted in investment savings for dentists. The only charge to the individual dentist participant is 1/2 of one per cent annually on the value of the fund which, at the last valuation date, exceeded \$16,000,000. There are no other loading or administrative charges.

Question No. 12

Should your National Association sponsor insurance and investment programs for the dentists of Canada so that Association members may take full advantage of specifically designed group plans in these areas?

Your opinion is valuable. In order to share it with others, letters to the Executive Director may be used in the Journal, *unless the writer specifies otherwise.*

FEEDBACK

In your December 1973 editorial comment, you ask where are the "nay-sayers whose opinions are so often quoted by others?" My answer: the Association has failed to communicate with the membership. As a result the nay-sayers have stopped reading the Journal, only the uncritically faithful remain. Evidence as to why, can be found in the Executive Director's questionnaire.

In general the questions posed are in motherhood terms; and the background material is in support of "motherhood". I, too, am for "motherhood", unless of course, it results from sin. I will now illustrate in specific terms.

Question No. 1: Do you believe the Canadian Dental Association should sponsor council meetings which provide an opportunity for elected dental representatives from all parts of Canada to meet together and to work at finding solutions to dentistry's problems for the profession as well as the public it serves?

Does it not go without saying that the replies will support bettering "the profession as well as the public it serves"? The critical question, however, is the method of achieving this end. Does the membership support the council concept? Are there alternatives to the council? If so, why were they not listed? One respondent suggested that council members be appointed. Should council members be appointed rather than elected? While appointments are acceptable if the appointing bodies can be trusted, it has been my experience that CDA committees have been stacked — even as recently as at our last Board meeting in October. Elected councillors represent the opinions of the majority, whereas *appointees* may find it in their self interest to articulate the minority views of the *appointees*. The CDA will be stronger when it is forced by voluntary membership to be more responsive to the needs of the majority of its members — the "wet finger" general practitioners. At present this is not the situation.

I could give a qualified "yes" to a

question such as, "Do you believe the CDA should sponsor council meetings"?

Councils are necessary to carry out certain, but not all, functions of our association. Provincial jurisdictions must be respected by the CDA unless there is unanimous consent by the provincial dental associations. In cases where there is not unanimous consent, CDA could establish and sponsor annual conferences to allow a free exchange of ideas without having to reach a consensus or to attempt the formulation of a national policy. This was done very successfully with a Conference on Continuing Education last year and will probably be achieved again in a conference on Auxiliaries in Banff this January and a future one on Information Services.

CDA Councils, unfortunately, are geared to produce policy statements which are too little and too late, and which serve only to aggravate delicate relationships between government and provincial dental associations. The utilization and type of auxiliaries, for

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example, in the Yukon are different from those of Saskatchewan, and more different from Ontario or Quebec. How can one have a clear, definite strong national policy to cover disparate needs? Better to have no policy at all but well informed provincial associations who can themselves deal effectively with these matters within their own areas of jurisdiction. It would take only one uninformed, unsupported provincial association to set a bad precedent for dentistry in all of Canada. It has happened in the past and is happening right now in Saskatchewan.

The Executive Director's question presupposes, however, that there is only one method to achieve better understanding on dental problems. My experience suggests that there are obvious alternatives to council meetings. Dentists meet and discuss national dental problems at provincial, regional, national and international conventions, continuing education courses, local society meetings, provincial committee meetings and even on group holidays and personal travel. Better understanding of our problems hinges on a free and complete exposure of facts and opinions. There should be no need to ferret information from CDA HQ. There should be no secrets from our Executive Council. For example, in the course of discharging my responsibilities as a member of CDA Executive Council, HQ stalled so long in replying to some of my questions that when the information was finally released it was no longer relevant or useful. HQ refused to pass on to the Board reports that were addressed to the Board. And HQ refused to give Executive Council information which was requested.

If conferences and councils are the two best ways of having organized discussion, perhaps councils should be reorganized. Councils that have one member from each province could be reduced in size to having one from each region (district) or even granting two each from the larger provinces where the situation may be too complex for one representative to comprehend fully and communicate to the other council members. CDA could provide secretarial assistance to each council member to ease his work load. One would suppose that there are other ways to handle CDA business.

Our Task Force will be seeking your opinions on it.

A major problem of our council system is the failure on the part of many council members to maintain two-way communications. They fail to report adequately to CDA and back to their own corporate member, or whatever other body they represent. It is a heavy and onerous responsibility for any one person. Members who offer their services should be prepared to devote a lot of time to their task or not bother to run for office.

We all know our Executive Director and we read his articles in our Journal, but who is our elected President? Where is he from? What does he stand for? In most of our provincial newsletters or journals, it's the elected representative who reports to the members. Where are the views of our President Elect? Executive Council? Board members? I challenge *them* to reply.

In an article, "Tabulation", by Dr. George W. Crane in a recent *CAL Magazine*, the author compared (or rather, contrasted) the answers that were received to questions posed by *Dental Management Magazine* and *CAL*. Both tried to get American Dental Association members to reply to questions on voluntary membership, national health insurance programs, uniform national licensure, compulsory continuing education, etc. Other than the wording of the questions, the author explains the variance in answers in part by saying: "First, the Dental Management survey may have been made to a selected group that would more likely support the 'party in power', namely, the officialdom of dentistry. Second, many professional men still react somewhat like sheep and kowtow to authority." If we are sheep, then we deserve only pity; if we aren't, let's prove it with some original thinking and penetrating questions.

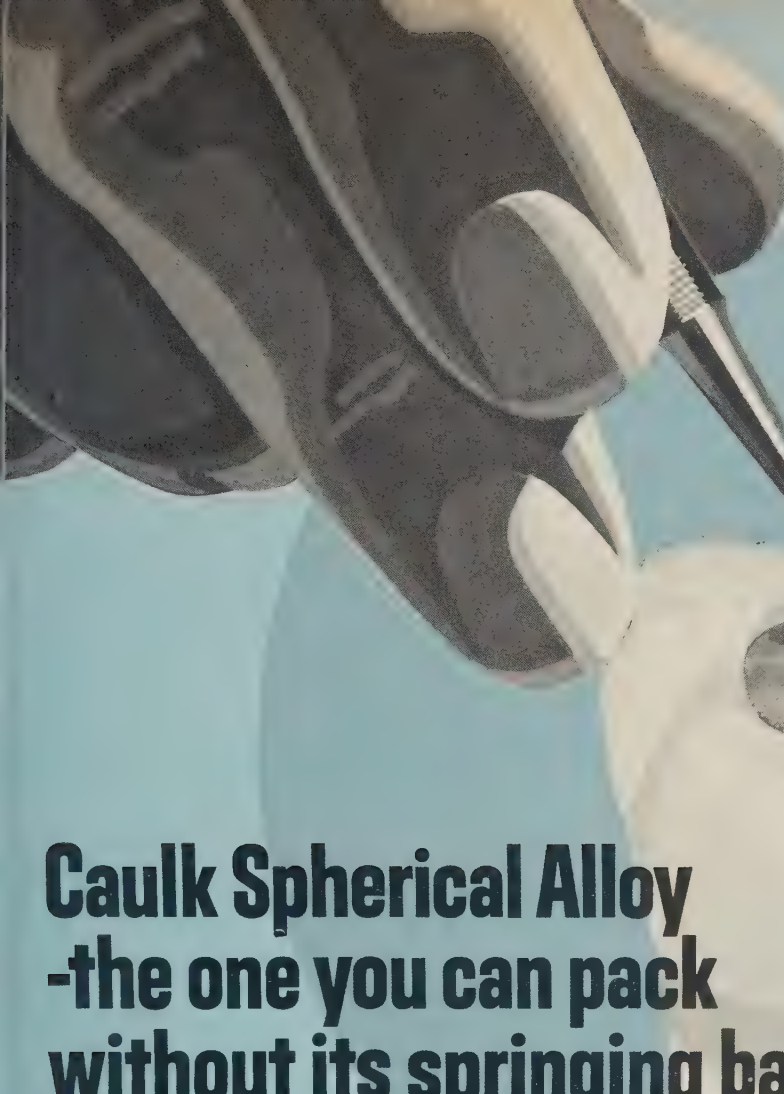
Question No. 2: Do you believe the CDA should have a council with all provinces represented which deals with the areas of service that have been identified with the Council on Health Care and which have both provincial and national significance?

One member from Ontario, B.C. or Quebec, on these councils should not have his vote balanced by one from

Newfoundland, P.E.I. or New Brunswick. The former three represent almost 80 per cent of our members; the latter, less than 4 per cent. Secondly, CDA policies on auxiliaries and other directly provincial prerogatives should be non-existent, or the lowest common denominator of the provincial dental associations.

I prefer to have our members reply to questions like: (a) Do you find the CDA views to be politically inconsistent with yours or those of your provincial dental association? Personally, I find them to be consistent, *consistently politically to the left*. What CDA views are considered to be politically to the right? (b) Do you know the CDA position on the Saskatchewan Dental Nurse Plan? Who prepared it? Who authorized it? (c) How will the CDA position affect negotiations between your provincial dental association and your provincial government? (d) Do you believe that the private enterprise system of delivering dental care is more efficient and beneficial than a government-controlled and sponsored plan? (e) Do you believe that, in any government-sponsored dental plan, the dentist should have freedom of choice to opt in or out, and to accept or reject a patient? Should the patients have the same right without penalty? What is the CDA's position? (f) Do you know the recommendations of Dean Jack Paynter's Committee that reported to the Saskatchewan Government on their Dental Health Plan for Children? Do you agree? Does the CDA have the facts and figures to either support or refute the recommendations?

A good example of what I believe is the proper role of CDA was demonstrated some 10 years ago by the CDA Fee Schedule Committee which established the RVU system. Most, if not all, provincial dental associations have adopted the system and are free to amend it to suit local conditions. But, each province still can and does establish its own conversion factor without any interference from CDA. This association is now further studying the RVU system to validate the original assumptions. If we can't defend them, we must change them and have the facts to support our changes. Unfortunately, this project is being delayed because of inability to provide the needed dollars. In my view



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this should be a high priority item for the CDA.

Another current commendable example of good committee work is the development of national standardized dental claim forms and uniform coding of services. It represents a major task which, except for minor and continuing revisions, was completed last year.

The role I envisage for the CDA is to do the fundamental studies, gather, collate, store and disseminate current information and thus help create the environment to allow each provincial dental association to develop the options or policies that they think are best suited to their own particular or peculiar needs. In this way, each provincial dental association should have a better understanding of its own problems, its own decisions, and the ultimate implication of its own actions on itself, and on the other provincial dental associations.

Question No. 3: Do you believe the free loan and reference library facilities offered by the CDA to the dentists of Canada is a service that your National Association should provide for its members? "Yes" or "no" with reasons, please.

The CDA Sydney Wood Bradley Memorial Library is financially endowed and independent. How can one object to the continuation of this valuable service since we cannot reorder the spending priority of these funds for other CDA services? Are the CDA library services a duplication of the services available at your dental alma mater? Does the CDA supplement or interfere with the latter? Should the library charge active members for the use of this service? If yes, how much? Should the library service be expanded to provide CDA tape cassettes? More books? Research services? Anything else?

Question No. 4: The Association's activities in the areas outlined above are designed to serve the members of the profession and the public. If these services were not provided on a national basis, they might not be provided at all; or they might be available only in isolated areas; or if they were to be provided by each province, there would be great duplication of effort across the country. Do you think service programs such as are presently

being provided to the profession and the public through educational pamphlets, TV film clips, radio messages, dental columns in daily and weekly newspapers and the CDA cassette program are programs which should be provided by the Association? Please give reasons for your "yes" or "no" answer.

The first paragraph is again "motherhood" rhetoric. CDA has already agreed in principle to hold a national conference on this subject. This conference will hopefully provide the information needed to determine who's doing what, when, why and how. Basic essential information services can be identified, and the CDA can within budgetary limits provide these. In addition, the CDA can help individual provincial dental associations to develop supplemental programs with the full knowledge and co-operation of the other provinces. Delineation of national and provincial responsibilities along with a co-operatively developed plan will avoid needless frustrating duplication.

Information services to the public and profession are an important high priority role for the CDA, but it takes dollars, and, to do it effectively, we cannot afford to skimp.

As for the CDA cassette program, the editor, his committee, and the individual contributors should be highly commended for the excellent quality and general usefulness of the papers presented. But I'd like answers to the following: What are your feelings about the cost of this program? Are the tape cassettes convenient to use? Is it more effective to listen to the tapes than to read the article? Would you benefit more or less if these papers were published in our Journal in addition to being on tapes, or instead of being on tapes? Answers of "yes" or "no", to such specific questions are necessary. "Motherhood" doesn't require a "yes" or "no". It happens.

Question No. 5: Should the Association publish a bilingual dental Journal for its members?

The two questions are: Should we publish a Journal? Should it be bilingual? My answers are "Yes" and "Oui". But what do you think about our Journal? How do we ask this question of those who don't read it?

Can you suggest improvements? Do you like the new editorials? News reporting? Visual impact? Scientific articles?

On the bilingual issue, my views appear in the January 1974 Journal, page 24. How can we Anglophones tolerate a situation where we make over 20 per cent of our members feel like strangers in their own Association and country? Why do we send Anglophones to Quebec to search for the causes of the serious problems that exist between CDA and our Francophone members? Why can't our Francophone members communicate effectively with our headquarters?

Have you ever tried to convey the subtle points of your attitudes on specific policies in another language? Have you Anglophones ever listened to a dental lecture in French? If "yes", did you get as much out of it as you wished? Were you frustrated by this? We need a fully bilingual Executive Director, and if we can't have that, then, we should at least have a fully bilingual second-in-command, or a business manager who would be responsible for all HQ administration not directly dental professional.

Question No. 6: Is an annual national convention a requisite for the CDA? Only those who have attended the CDA conventions of the last few years should be allowed to answer this question.

The organization and execution have been outstanding. To be sure, there have been problems which could have been minimized or avoided, but on the whole the recent CDA conventions have been a giant stride forward for CDA. My only question is how can they keep up this pace of innovations, increasing attendance, and quality educational and social programs?

The arrangement of having a small active national committee responsible to the Executive Council, supported by HQ conventions staff, and the all-important imaginative local convention committee, is a winner. They all deserve praise for making the CDA convention the success it is. It would be interesting to see how our members feel about these lesser issues. Do large CDA conventions in your region affect the operations of, and attendance at your regional convention? If they af-

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fect it adversely, do you feel that the overall benefits are worthwhile?

Question No. 7: In your view, does Canadian dentistry need a national voice by which to communicate, on behalf of its members, with governments, with other national and international organizations and with the news media?

Additional comments beyond your "yes" or "no" will be most welcome.

Motherhood says, "There is no doubt that we need a national voice". The critical questions are who will be that national voice? CDA? NDEB? RCDC? ACFD? Or a National College of Dentistry? And, what will it say? I'm serious about the choice I'm presenting to you. It's not as ridiculous as you may think. I refer you to the 1973 CDA Transactions:

NDEB — P. 33, P. 168

RCDC — P. 33

NCD — P. 33 and 1972

Transaction p. 65.

Did you know that there is no reference in the '73 Transactions to the Bill presently before the Canadian Parliament to increase the powers of the NDEB? Did you know about it? Do you care? But, let's return to the question of the CDA as our national voice. It is more important at this time to determine: How will the CDA decide on the policies it will voice? Will it be the Board which meets annually? The Executive Council which meets three times annually? The CDA President who meets almost monthly with the Executive Director? Or will it be the Executive Director?

Who will voice and, if required, publicly debate these policies? (a) Executive Director, (b) President, (c) a dean, (d) a specialist, (e) a "wet-fingered" general practitioner, (f) does not matter? Pick one or more and give reasons.

I want responsible elected representatives to be my spokesmen. It does not matter if that representative happens to be a specialist, salaried administrator, dean, or whatever, as long as that person has been popularly elected and presents fairly the majority opinion. I do not approve of delegations or representatives to federal agencies being appointed by a few and consisting of persons who do not agree with the political and professional attitudes of a majority of our members.

For example, do you know who

selected the CDA participants at the sessions of the Hastings Task Force on Community Health Centres? Did the CDA Executive know? Did you know that only one of the four was a practising dentist? That at least two of the remaining three persons have a national reputation for their dental socialist leanings. That the Hastings Report recommended that "denturists" be included in Community Health Centres? My question is who spoke for dentistry and what did they say? In cases like these, *a mute national voice may have been better!*

At present, control of CDA policy rests with those who control the representatives from the smaller Corporate Members. CDA policy must be determined only by the CDA Board and then, only, by a majority of the corporate members' representatives representing a majority of our individual members. For example, Ontario and Quebec, representing at present over two-thirds of our members, should not by themselves be allowed to dictate CDA policy. They should enlist the support of at least some of the other representatives.

Question No. 8: (1) Do you think CDA should be closely involved with dental student affairs?

(2) Should there be a student membership?

(3) Should the Association assist with dental student selection by administering a dental aptitude test program?

(4) Should programs such as the student conference and student clinic competition that are meaningful to the students be supported by the Association?

Yes, the CDA should be involved with student affairs and, more important, students should be involved with CDA affairs because we could handle their affairs so badly that they won't recognize the profession when they finally become dentists.

Yes, there should be student membership; how else can we involve them if they are not partakers?

No, we should not continue to assist with dental student selection by administering a dental aptitude test program of questionable value. If we believe that any specific action is of a high priority and we can afford to take that action, then let's do it. We did that and initiated the Dental Aptitude

Test Program. Now that the program is self supporting financially, let's give it over to those who use the service, the ACFD primarily, and, secondly, the students, through our Student Membership Committee.

Voluntary dental associations should still maintain some input into dental faculty curriculum content, selection process, etc., in an advisory capacity, but dental faculties must maintain their autonomy from dental associations.

Finally, the token student membership on the CDA Board should be re-examined. There are over 850 student members of the CDA and their numbers are increasing steadily. There are seven provinces which do not have that many dentist members, in fact, six don't even have half that many. Student representatives on the CDA Board take one meeting to get over their shyness, then when they're ready to contribute they're replaced. Two student reps with the right to vote would significantly increase their courage and input to our deliberations.

I hope, Mr. Editor, that my alternate questions and answers stir our members to positive active involvement in our CDA. Surely those 8,000 dentists out there have something more to say than baa-baa-baa!

Question No. 9: Do you believe that CDA should develop and implement accreditation programs for undergraduate dental and dental hygiene programs, post graduate dental programs, dental assisting programs, hospital dental services and internship and residency programs?

It is difficult to understand the question since CDA has already developed and implemented such a program. And again, all the background material is incomplete and slanted to lead the reader to one conclusion — Yes! even if he doesn't understand the question.

Who benefits from the accreditation program and to what extent? Our Executive Director states "Members of the dental profession and the public both benefit". He also claims that graduates from nationally accredited programs enjoy status and ease of portability because of it. Program administrators and the institutions themselves also benefit. There is no mention at all of one of the prime bene-

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factors, viz. — the National Dental Examining Board. A graduate of a CDA accredited undergraduate dental program can upon graduation simply pay a fee and receive the NDEB Certificate. The prime benefactors of the dental accreditation program then are the dentists (CDA), the provincial dental licensing bodies (NDEB), the dental schools (ACFD), and indirectly the public (provincial governments).

How much does this program cost? What will it cost in 1974? My calculation, including hidden costs, approaches \$40,000 per annum; almost the total revenue from five of our ten corporate members (all at \$65 per member). Should we the dentists via CDA membership buy this prestige service? Is it not reasonable to expect the benefactors to share equitably the costs of the program? The NDEB has

recognized its responsibility and has begun making grants but they should be higher. In fact since now it is little more than a formality to issue NDEB certificates to new graduates, perhaps 90 per cent of this revenue should be directly allocated for accreditation. The Board agreed last fall to seek more financial aid from the ACFD and the institutions accredited. It can be rationalized that if the public benefits and since public funds support dental schools, monies contributed by ACFD are an indirect public contribution for the indirect benefit. I'll buy that.

I envisage a tripartite National Dental Accreditation Agency equally founded and funded by CDA, NDEB and ACFD. The CDA representatives would have neither direct affiliation with dental schools nor with licensing bodies. In this manner neither the educators nor the registrars could be accused of controlling the accreditation program and there would be no hint of conflict of interest.

Of what direct benefit is the program to me? If my sons or daughter wished to enter dentistry which dental school should they attend? Is there any information available to our members that will tell them which schools are strong in operative, prevention, perio, basic sciences, etc., etc.? Even the members of our Executive Council don't know the strengths or weaknesses of the *CDA accredited* dental programs. Why is there so much secrecy surrounding accreditation and evaluation? Has any undergraduate dental program in Canada ever been denied accreditation status? How could a majority of students graduating from a CDA accredited program receive NDEB certificates qualifying them to practise in almost all of Canada, be judged by their own provincial licensing body to be not competent to practise in the province in which they were schooled? Are the standards set by CDA so low as to let the lowest on the totem pole be accredited?

I hope that some of our members share my inquisitiveness. I hope too that those who hoard the answers will share them with us.

*Ivan Hrabowsky, DDS
Downtown Dental Centre
421 St. Paul St.
St. Catharines, Ont.*

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Serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients undergoing or following the administration of chloroform, halothane, cyclopropane, trichloroethylene, or other related anesthetics. **ADVERSE REACTIONS:** Adverse reactions result from high plasma levels due to excessive dosage, rapid absorption, or inadvertent intravascular injection. Hypersensitivity, idiosyncrasy, or diminished tolerance may also be a cause of reactions. Reactions due to overdosage (high plasma levels) are systemic and involve the cardiovascular system and the cardiovascular system.

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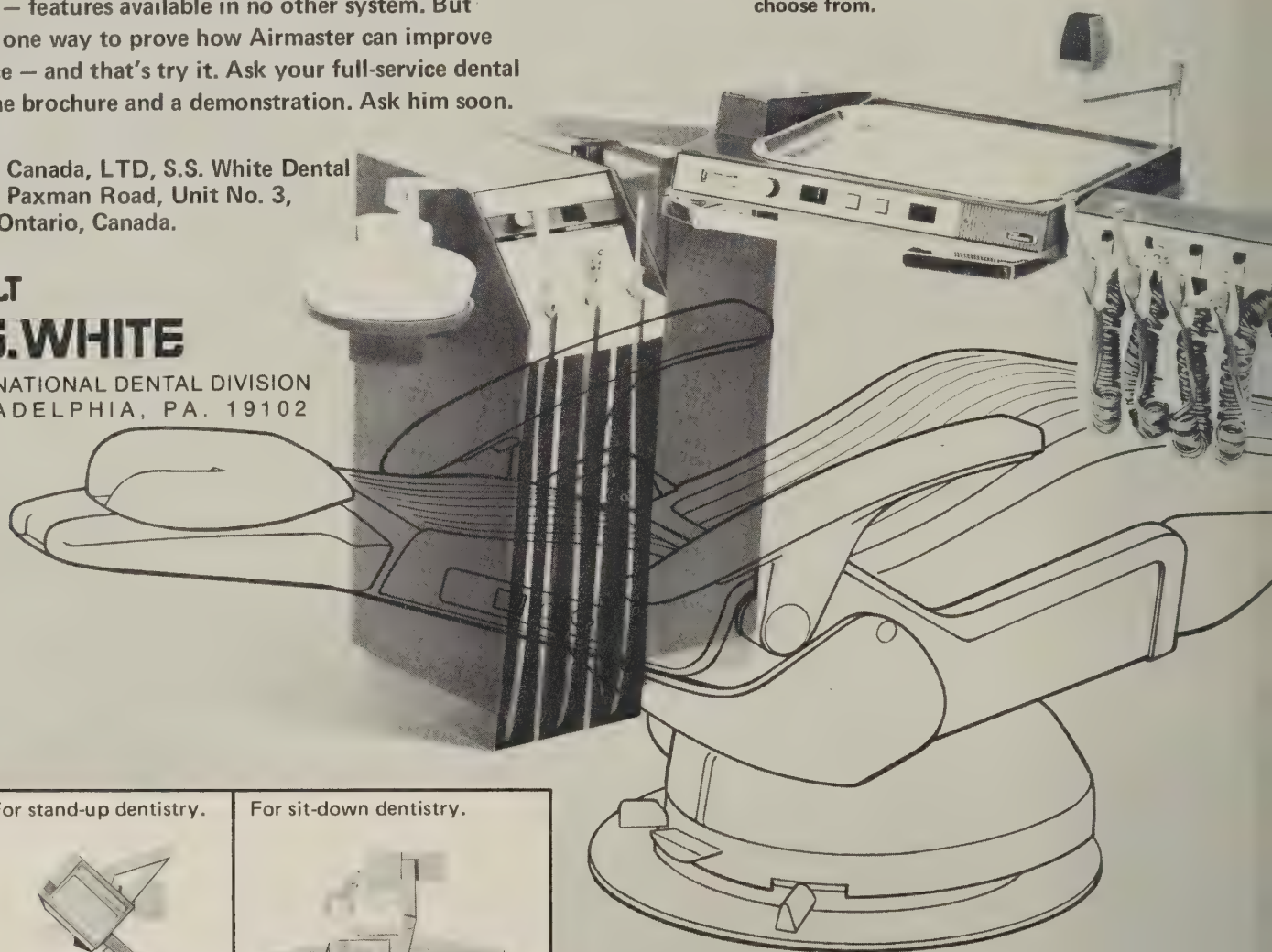
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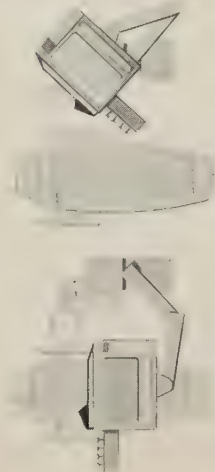
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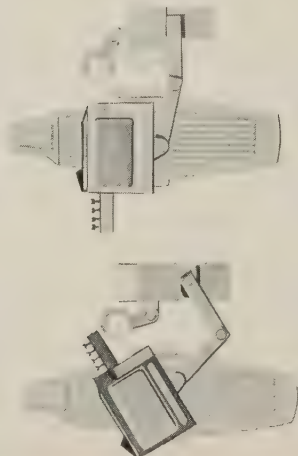
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WHAT THE FUTURE MAY HOLD FOR AUXILIARIES

The dental assistant who becomes a dentist may be in the wave of the future if recommendations at the Canadian Dental Association Conference on Dental Auxiliaries, January 23-25 come to pass.

One hundred and twenty-two delegates at the Conference in Banff, astonished even themselves when results of intensive workshop discussions were tabulated. Dentists, who represented all phases of the profession, in practice, education and government, found themselves in general agreement that there is inadequate education in dental schools on the proper utilization of auxiliaries and that duties could and should be expanded. The idea was broached that all but diagnosis and prescription of treatment for a patient could be delegated to an auxiliary person, by the supervising dentist.

Dental nurses, assistants, hygienists and technicians gave favorable consideration to the principle of there being only one type of basic auxiliary, whose education could continue through to a doctorate degree on a vertical career ladder. For the auxiliary who wanted expanded duties in the specialty fields of dentistry, there could be lateral career training in preventive and restorative dentistry, periodontics, prosthodontics, and orthodontics as well as other specialties.

Delegates represented provincial dental organizations, licensing bodies, educational institutions and government agencies as well as the Canadian Dental Hygienists' Association, the Canadian Dental Nurses and Assistants' Association, dental technician and laboratory groups.

The Conference was called to establish guidelines on the short and long-range objectives needed for the education, licensure and practice of dental auxiliaries in Canada.

"The need for such objectives is great since present auxiliary services are expanding rapidly and new concepts are being developed without overall co-ordination," said Dr. E.F. Allison of Calgary, chairman of the organizing committee.

Other members of the organizing committee were Miss Marjorie Weich, past president of the Canadian Dental Hygienists' Association and Dr. D.E. MacFarlane, member, Canadian Dental Association Council on Health Care.

Major points to emerge were the need for alignment of provincial legislation on auxiliary functions; the development of new educational patterns to provide the necessary vertical and lateral career development of auxiliary personnel; joint education of dental students and auxiliaries to teach full utilization of auxiliary skills in dental practice; national accreditation of all programs to achieve Canada-wide mobility of trained people; and education of the public to accept care given in the hands of an auxiliary.

Specific recommendations which will be taken to CDA for further consideration were the development of a model Dental Practice Act as a guide for provincial legislation, and the creation of an in-depth study group. This group would assess the cost benefit to the public of any changes to greater use of auxiliary personnel; establish roles of auxiliaries and dentists in the work team; and develop a curriculum model for future education.

A full report on the Conference will be given in a future Journal.

\$1,500 CFDE Fellowship Open to University Dental Teachers

Applications from university dental teachers are invited for the Canadian Fund for Dental Education 1974 fellowship. Warner-Lambert Canada Limited makes a grant to CFDE to underwrite the cost of this annual award.

CFDE Trustee Dean J. W. Neilson states, "The purpose of this award is to provide an opportunity for an established teacher in one of our Canadian schools of dentistry to refresh and extend his knowledge in any field of dental education or research."

Candidates must be full-time members of the teaching staff of one of the Canadian schools of dentistry with a minimum of five years university teaching experience. The proposed program of study must be well defined and be at least a minimum of one month's duration.

Full particulars of the fellowship may be obtained from the office of the dean in each dental school or the Canadian Fund for Dental Education.

Application by letter giving complete details of the proposed program of study should be sent to the Canadian Fund for Dental Education, 234 St. George Street, Toronto, Ontario M5R 2P2, to arrive not later than April 1. It should be accompanied by a curriculum vitae and a letter of support from the applicant's dean or other appropriate senior university official, indicating approval of the study period and its benefits to the university and the individual staff member.

All applications will be carefully reviewed by CFDE's Advisory Committee on Fellowship Selection and the award winner selected for the approval of the Board of Trustees.

Previous recipients of this fellowship, inaugurated in 1971, are: Dr. J. F. Cleall, University of Manitoba; Dr. S. L. Khanna, University of British Columbia; and Dr. A. Demirjian, University of Montreal.

UBC Appointment

Dean S. Wah Leung, Faculty of Dentistry, University of British Columbia has announced the appointment of Dr. David T. Zack as Assistant Dean.

Dental students planning to increase CDA organization

Student delegates to the Fifth Canadian Dental Students' Conference, held in Montreal, November 14-17, voted to increase the organization of student members in their respective schools, to provide better continuity and more exposure to Association business. Representatives will now be elected a year earlier to their term and fourth year students will act as past delegates.

All ten dental schools were represented when, for the first time, Laval University sent a delegate, Gaston Poirier. Other delegates were Tom Larder, Dalhousie; Roger Gendron, Montreal; Aron Gonshor, McGill; Tricia Courtright, Western; Denis Page, Toronto; Alan Winchar, Manitoba; Don Povey, Saskatchewan; Russ West, Alberta and Terry McKay, British Columbia.

Joint hosts were the University of Montreal, McGill University and the College of Dental Surgeons of the Province of Quebec, represented by Dean J.-P. Lussier, Dean E.R. Amb-

rose, and Dr. S. Silver.

As in the past, the Conference was funded by the Canadian Fund for Dental Education through a special grant from Colgate-Palmolive Limited. Conference chairman was George Pakozdi of the University of Toronto and CDA was represented by Dr. D.J. Kenny, Chairman of the Student Membership Committee.

Realization that each student had common or comparable problems in their scholastic lives developed a distinctive rapport. This was expressed in the actions taken, including a unanimous vote to seek funds to provide membership in the International Association of Dental Students, as an additional benefit to CDA student membership; and a recommendation to approach student councils to contribute either time or money to the Canadian Fund for Dental Education.

Delegates held fruitful discussions with Dr. Roger Coulombe of the National Dental Examining Board of Canada; and learned "What Students

Should Know About Insurance and Investments" from Dr. David Way, Council on Insurance and Investment and W.E. Jackson of Canadian Dental Service Plans Incorporated. The students requested local representatives of CDSPI to contact schools early in the academic year.

Tricia Courtright, UWO was elected chairperson of the Sixth Conference. Other elections were: Terry McKay, UBC to CDA Board of Governors and National Dental Examining Board; Tom Larder, Dalhousie, to the Dental Auxiliary Workshop in Banff and Aron Gonshor, McGill, to CDA Council on Education.

The conference closed with a panel discussion on "Dental Education Today and in the Future." Students from the two host faculties and student delegates discussed the future of dentistry with Dean E.R. Ambrose, McGill; Dean J.-P. Lussier, University of Montreal; Dean W.J. Dunn, University of Western Ontario and Dr. J. Stamm, Assistant Professor at McGill University.

Left: Students and conference members listen intently to the panel discussion, "Dental Education Today and in the Future."
Right: Delegates (L-R) Don Povey, Saskatchewan; Dean W.J. Dunn, Western Ontario; George Pakozdi, Toronto, Chairman; Beverley Nicholl, CDA Office of Student Affairs; Tricia Courtright, Western Ontario.



ODA lay conference on prevention of dental disease



Dr. R.F. Barkley (L), Chairman, Dental Health Committee, American Academy of Dental Practice Administration and Dr. R.A. Connor (R), Dental Consultant to the Health Protection Branch, "Nutrition Canada," were featured on the last day of the Conference.

The lay public represented by such groups as trade unions, government health agencies, consumer organizations and insurance firms watched, listened, learned and then spoke out on ways to combat dental disease at the January 17-18 Conference on Prevention of Dental Disease, staged by the Ontario Dental Association. Eleven, pointedly direct resolutions were adopted.

Advertising nutritionally-poor foods

Nutritionally-poor foods and the advertising methods used to promote their sale came under fire. Delegates approved two resolutions aimed at manufacturers of confections, sweets and certain types of convenience foods.

One resolution asked that health groups meet to make recommendations to Ottawa for changes in government regulations concerning the manufacture, sale and advertising of "nutritionally inadequate foods of high sugar content."

The other resolution called for anti-commercial commercials on radio and television "to counteract advertising of nutritionally-poor food prod-

ucts." Recommendations along this line will be made to the Canadian Radio and Television Commission.

"We are against adding nutrients to junk foods," one delegate said. "That would just give these products a cloak of false respectability."

A number of resolutions dealt with the need to publicize the importance and effectiveness of current methods of preventing dental disease, especially to school-age children and subscribers of various dental insurance plans.

The idea of a Dental Health Foundation, which has been proposed to several provinces, was given further impetus by a resolution calling for a voluntary public organization including lay persons, dentists and other health professionals to support research and to promote better dental health among citizens in all walks of life.

Protective measures

The Conference delegates proposed that the Government of Ontario institute procedures to require universal fluoridation of water supplies throughout Ontario, for the purpose of extending the benefits of fluoridation to the approximately one-third of the

population not now receiving fluoridated water.

Looking at protection from another angle, the Conference felt all organized athletic groups throughout the province should be encouraged to take steps to protect the dental welfare of participants in body contact sports, through the wearing of mouthguards.

Other resolutions dealt with the need to increase the numbers of dental auxiliaries to carry out more preventive programs; and the fact that the physically handicapped should be able to receive economic support and facilities for dental services.

The two-day conference featured many outstanding speakers including Frank S. Miller, Parliamentary Assistant to the Ontario Minister of Health; and from the University of Toronto, A.B. Hord, Assistant Dean and Associate Professor; D.W. Lewis, Professor and Chairman, Community Dentistry; W.J. Fleming, Associate, Department of Preventive Dentistry, and H.L. Freedman, Associate. R.M. Kellen, DDS, Chairman, Insurance Advisory Sub-committee also participated along with ODA President, R.L. Moran. Chairman of the Conference was H.P.J. Viergever, Hamilton.

CFDE teacher/researcher training fellowships

The Canadian Fund for Dental Education has announced that applications are now being accepted for teacher/researcher training fellowships for the 1974/75 academic year.

The deadline for filing applications is April 1, 1974. Forms and additional information may be obtained from the dean's office in any Canadian dental school or the Canadian Fund for Dental Education, 234 St. George Street, Toronto, Ontario M5R 2P2.

Conditions

Candidates must be Canadian citizens or landed immigrants who have completed an undergraduate course in dentistry or a program in science, and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian faculty of dentistry. Preference will be given to those applicants who will return to a

full-time teaching/research position in a Canadian dental school. Minimum commitment in this regard is two days per week. A fellowship recipient is obligated to give one year's service to a faculty for each year of support (i.e. one year of full time service or two years of half-time service for each year the applicant received aid).

Each fellowship is for one year of study at the graduate level. The fellowship may be renewed for subsequent years if progress is satisfactory.

The value of the fellowship will vary depending upon the cost of the program of studies, marital status and other awards received by the applicant. It is hoped that a full fellowship will be adequate to cover tuition and to substantially assist in the provision of living costs. Full fellowships are awarded to applicants who will be employed on a full-time basis in Canadian dental faculties, and partial fellowships are provided to applicants

who will be employed on a half-time basis.

"Since the program was started in 1964, the Fund has awarded 122 fellowships totalling \$271,332 to 80 dentists to help them pursue teaching/research careers," according to Trustee Mark Boyes, D.D.S. "Fellowships totalling \$8,332 have also been awarded to assist four dental hygienists to prepare for teaching careers in Canadian schools," said Dr. Boyes.

CFDE's Advisory Committee on Fellowship Selection reviews all applications. The Committee is chaired by Dr. R. C. Burgess of the University of Toronto, and serving with him are Dr. G. E. Albert of the University of Montreal, Dr. H. A. Hunter of the University of Toronto and Dr. H. J. MacConnachie of Dalhousie University. Recommendations are made to the Fund's Board of Trustees and fellowship awards announced early in May.

SPECIAL NOTICE — TWO-DAY PERIODONTAL COURSE

The Mount Royal Dental Society and La Société Dentaire de Montréal are sponsoring a two-day, limited attendance course in Montreal, March 22-23, featuring Dr. R. Yuodelis, professor and director of graduate dentistry, University of Washington. The correlation of periodontal and restorative procedures in the treatment of pathologic conditions of teeth and their supporting structures will be covered.

Full details of this course are available from the advertisement in the Classified Section.

Class Reunion

The 45th reunion of the Class of 2T9 will be held Tuesday, May 14 at the Four Seasons Hotel, Toronto, during the ODA Convention.

Those interested should contact: Dr. Jack Marshall, 181 Bleecker Street, Belleville, Ontario.

Alberta Extended Benefits include dental care plan

The new year brought extended health benefits to Alberta's 150,000 senior citizens and their dependents including dental services that provide restorative, surgical and prosthetic care as defined in the Alberta Dental Association's 1974 fee schedule.

The Alberta Association negotiating team were at work for many months with representatives from the Alberta government. Payment by the Alberta Health Care Insurance Commission will be 90 per cent for the services provided in the agreement up to and including June 30, 1974; and 95 per cent for services from July 1, 1974 to December 31, 1975.

A member of the Association who accepts as payment in full the rates stated submits his claim directly to the Commission. Any member who does not accept these rates as payment in

full will: inform the patient prior to service; make prior arrangement with the patient for the amount of the fee and method of payment; and will issue a receipt or statement giving full details of service and the fee charged so that the patient may be reimbursed by the Commission.

An eligible patient may receive services to a maximum of \$1,000 for any two consecutive years. Payment for a posterior bridge, posterior gold restoration or major orthodontia must be approved by the Commission prior to the work being done. A complete or partial denture in any one arch may be obtained once in a five-year period, and a reline once in a two-year period.

Once agreement was reached with the Department of Health and Social Development, all Alberta dentists were quickly circulated with details of the plan.

Report from Manitoba Committee on Dental Health Care

A Manitoba government committee on child dental health care has recommended a preventive dental health program for children up to 12 years, with earliest possible consideration to be given to extending the program from pre-natal to age 18. The committee has two appointees from the Manitoba Dental Association — Walker Shortill and M. D. Nevile. Chairman was Dr. J. W. Neilson, dean of the Faculty of Dentistry, University of Manitoba.

Dr. Shortill has observed that all committee members worked in a most constructive manner in their attempt to achieve the common goal of improved dental health for Manitoba children. Now that the report has been made public Dr. Shortill expects that all members of the Association will actively participate in its consideration.

Health Minister René Toupin called the program a forerunner to a full-fledged denticare scheme for children. The preventive program is to be implemented on an incremental basis starting with phase one in the fall of 1974 and be fully operational by 1978.

Services to be offered under the program include oral health education, diet and oral hygiene counselling, use of fluoride in a variety of forms as applicable in particular circumstances,

use of pit and fissure sealants and other techniques of oral disease prevention, with provision for emergency oral treatment.

Where private practitioners perform emergency treatment under the prevention program, the fee schedule of the Manitoba Dental Association is to be considered as the basis of payment.

It is also recommended that coverage by the Manitoba Health Services Commission of the treatment of jaw fractures and lacerations of the oral soft tissues, performed in hospitals, be extended to include dental offices or clinics in areas where they are the most appropriate location.

Auxiliary personnel for the program are to be recruited from the areas they are to serve and to receive their education and training at community colleges as close as possible to their area. A curriculum committee from dentistry, education, nutrition, public health, administration and behavioral sciences would be established to determine course content.

The report recommends exploration of a school lunch and milk program and also states that the sale and distribution of cariogenic substances such as candy, soft-drinks, chocolate milk and most chewing gums be prohibited on school premises.

APRIL 7-13 IS NATIONAL HEALTH WEEK

The Health League of Canada celebrates its 30th National Health Week, April 7-13 and at the request of the World Health Organization this celebration also honors the anniversary of the founding of WHO.

Sixty-six organizations are represented on the Health League's General Council including the Canadian Dental Association.

Dr. Gordon Bates, O.C., General Director of the Health League of Canada says, "Health is a complicated condition which most people know little enough about. The result is that we are now suffering from a sick society."

"Health education must be continuous and vigorous, carried on for the benefit of all — in homes, in schools, in churches, in industry, in service clubs and voluntary organizations and, indeed, in all society."

Dr. H. Mahler, Director-General of the World Health Organization, has named April 7 as World Health Day, 1974, with the theme of "Better Food for a Healthier World."

One example of this urgent need is found in the statistics for protein-calorie malnutrition in the tropics where 11 million children suffer severe effects and 76 million suffer moderate effects.

Deaths

Armstrong, John James. 67. Toronto. University of Toronto, 1931. 2-2-74. Survived by Ruth (wife), John and Richard (sons), and Mrs. Jane Paterson (daughter).

Falconer, Robert L. 76. Fort Macleod, Alta. University of Toronto, 1925. 10-12-73. Survived by Doris (wife), Bruce (son).

Layter, Gordon Craig. 68. Toronto. University of Toronto, 1928. 22-1-74. Survived by Leila (wife), James (son), and Diane and Lois (daughters).

O'Meara, Brian Joseph. 68. Charlottetown, P.E.I. University of Toronto, 1948. 22-12-73.

Racine, Anthime, 78. Quebec, P.Q. University of Montreal, 1920. 20-12-73.

Ross, John Alexander. 90. Lindsay, Ont. Royal College of Dental Surgeons of Ontario, 1911. 27-1-74. Survived by Jack and Wallace (sons).

Shapera, Clifford, G. 58. Winnipeg. University of Minnesota, 1941. 4-12-73. Survived by wife.

Strauss, Samuel. 70. Toronto. Royal College of Dental Surgeons of Ontario, 1924. 12-1-74. Survived by Teresa (wife), Mrs. Naomi Shiff, Mrs. Sheila Kahan and Mrs. Ronda Larmour (daughters).

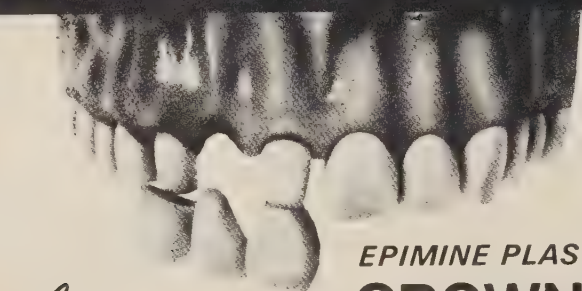
Our mistake

In the February issue we published a letter from Mr. D.M. McDonald, Executive Director CFDE. Unfortunately, there was a typographical error in the following paragraph:

For several years the American Fund for Dental Education has had a highly successful loan program for undergraduate dental students. In August 1973 it was expanded to include graduate students. CFDE's trust fund authorizes a loan plan for dental students. However, one has not been established to date, mostly due to lack of capital.

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CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on January, 31, 1974:

Guaranteed Fund \$10.657;

Fixed Income Fund \$14.306;

Common Stock Fund \$30.078.

Total assets (market value) of the plan were \$16,308,145.12.

The following portfolio purchases and sales occurred during the preceding month: bought, \$30,000 Royal Trust Company GIR; 12,149 units Classified Fund Fixed Income; 17,043 units Classified Fund Conventional Mortgage; 2,000 shares Cadillac Development Corp.; 1,000 shares Canadian Imperial Bank of Commerce; 2,000 shares Dominion Foundries and Steel; 1,000 shares John Labatts; 2,000 shares Noranda Mines Ltd.; \$600,000 Aluminum Company of Canada note. Sold, \$200,000 Ford Motor Credit Co. note; 3,000 shares Alcan; \$700,000 Aluminum Company of Canada note.

Régime d'épargne- retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 Janvier, 1974:

Fonds avec garantie \$10.657;

Fonds à revenu fixe \$14.306;

Fonds d'actions ordinaires \$30.078.

L'avoir total (valeur marchande) du régime se montait à \$16,308,145.12.

Au cours du mois précédent, les transactions ont été les suivantes: achat, \$30,000 Royal Trust Company GIR; 12,149 units Classified Fund Fixed Income; 17,043 units Classified Fund Conventional Mortgage; 2,000 actions Cadillac Development Corp.; 1,000 actions Canadian Imperial Bank of Commerce; 2,000 actions Dominion Foundries and Steel; 1,000 actions John Labatts; 2,000 actions Noranda Mines Ltd.; \$600,000 Aluminum Company of Canada note. Vente, \$200,000 Ford Motor Credit Co. note; 3,000 actions Alcan; \$700,000 Aluminum Company of Canada note.

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PURCHASE VS. LEASING

Thorne Gunn & Co. report

A number of considerations should be taken into account before a decision is made whether dental equipment should be purchased outright or leased. Although this report deals mainly with the income tax considerations resulting from such a decision, a number of other factors, outlined briefly at the end, should also be considered.

Tax write-off

Under the provisions of the Income Tax Act, dental payments are fully deductible from income in the year in which they are incurred. On the other hand, if the equipment is purchased the cost of the equipment is included in Class 8 and depreciated at 20 per cent a year on a declining balance basis. It follows that, generally speaking, the tax write-off when equipment is leased will remain the same from year to year during the term of the lease. If the equipment is bought however, the amount of write-off may be varied at the taxpayer's option, to a maximum of 20 per cent of the undepreciated balance in each year. This provides some flexibility since in low income years no depreciation need be taken. This effectively defers the write-off to a later year when income may be higher. These considerations alone make it obvious that it is impossible to make a general statement stating that certain taxpayers should purchase and certain other taxpayers should lease their equipment. Each decision must be made based on the circumstances of the taxpayer.

It is possible, however, to provide some comparative figures under assumed circumstances.

Let us assume that a taxpayer needs to acquire equipment costing \$15,000. He has the following options available to him:

1. Outright purchase for cash for \$15,000.
2. Outright purchase, but using bank credit of, say, \$12,000.
3. Lease the equipment over a period of four years for an annual rental of \$5,300.

Tax comparisons

Let us now compare the various tax positions for two individuals, having respective income for tax purposes, after personal exemptions but before any expenses relating to the equipment, of \$20,000 and \$35,000 per year. Our tax calculations ignore special tax credits available only on a temporary basis and are based on federal and either Ontario or British Columbia provincial income tax rates applicable for 1973.¹ With respect to the bank loan, we assume that the repayment would be \$3,000 per year payable at the end of the year, and that the loan would be subject to interest at an average rate of 9 per cent per year. Taking a four year period, the following comparison may be made:

1. Ontario and B.C. tax percentages are lower than other provinces but all provincial taxes, except for Quebec, are a percentage of federal taxes. Therefore, although other provincial percentages would result in different figures for taxes payable for each year in this example, the conclusion to be drawn by the reader would be the same. Quebec levies its own provincial tax but, again, conclusions drawn here would apply.

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* On ADA List of Certified Dental Materials.



	A — Income \$20,000			B — Income \$35,000		
	Purchase	Purchase with Bank loan	Lease	Purchase	Purchase with Bank loan	Lease
Taxes payable:						
Year 1	\$5,813	\$5,320	\$4,765	\$13,082	\$12,531	\$11,915
Year 2	6,087	5,717	4,765	13,387	12,975	11,915
Year 3	6,307	6,060	4,765	13,632	13,356	11,915
Year 4	6,481	6,357	4,765	13,826	13,689	11,915
Total	\$24,688	\$23,454	\$19,060	\$53,927	\$52,551	\$47,660
Cost of equipment:						
Acquisition cost	15,000	15,000	—	15,000	15,000	—
Lease payments	—	—	21,200	—	—	21,200
Interest on bank loan	—	2,700	—	—	2,700	—
Reduced taxes	—	(1,234)	(5,628)	—	(1,376)	(6,267)
Net Cash Outlay	\$15,00	\$16,466	\$15,572	\$15,000	\$16,324	\$14,933

The above figures seem to indicate that the purchase with a bank loan method results in the most unfavorable net cash outlay in both situations and in situation B, leasing would be the most favorable method of acquiring the use of the equipment. However, these conclusions are not necessarily accurate. They, in fact, bring to light the danger of making a decision based solely on comparative figures such as the above, because they ignore the following important factors, which should be taken into consideration in this type of comparison:

1. For purchased equipment, the estimated value, net of applicable costs of disposal, at the end of the four year period.
2. The options available at the end of the term of the lease.
3. The time-value of money. This concept attempts to take into account factors such as the following:

- if funds are to be paid after, say, two years, it is possible to provide for that payment by investing a somewhat lesser sum and earn income thereon for two years. Thus possibly only \$85 is needed now to provide for a \$100 payment two years from now.

- the reverse argument holds true for an amount to be saved in the future (e.g. tax reduction), that is, a \$100 saving two years from now, would be equal in value to, say, an \$85 saving now.

Consider other factors

Other factors to be considered before a decision as to whether to purchase or lease the equipment is made would include the following:

1. Assuming that the taxpayer has the cash available to make the purchase, this cash could be invested and therefore earn investment income. This investment income might offset the increased cost of other methods.
2. Borrowing the funds from the bank would impair the credit available to the individual. This would be particularly important to a dentist starting out in a new practice.
3. As pointed out above, depreciation need not be claimed at all, or if desired only a portion of it may be claimed in one year. As a result this deduction from income may be deferred until the individual is earning income at a higher level, therefore resulting in increased tax savings. This flexibility does not usually exist with leasing.
4. If a lease is entered into at a time when money is in short supply and as a result interest rates are high, this would be reflected in the lease payments. Since lease payments are usually fixed for a period of time this could well drive up the cost of the equipment. On the other hand this could work to the person's advantage as well. Since bank loans are usually available on demand basis the interest rate would move up and down with the market.
5. Another danger, of course, is that since most bank credit would be available on a demand basis,

there may be a tendency to defer repaying the bank loan. As a result, an individual might well find himself in a position of not having paid off the loan for equipment which is in need of replacement or in need of major repairs.

6. Many leasing companies do provide insurance covering lease payments to be made during periods of sickness.

7. If a dentist operates in partnership with a number of other dentists, leasing or borrowing may present a problem if the other partners have purchased their equipment. In such a case, decisions would have to be made, taking into account the individual circumstances for more than one person. In addition, if the bank loan or lease is arranged through the partnership, each partner

would probably be jointly and severally liable for the obligations thereunder.

When considering leases, which provide an option to purchase the equipment, it should be kept in mind, that the Department of National Revenue will review the terms of such leases carefully. If the terms are such that the option price is well below the fair market value of the equipment at the option date, the Department may insist on treating the transaction as a purchase. The "lease" payments then become payments on account of principal and interest.

Because of the above considerations it should be repeated that each situation must be examined using the conditions as they apply to the particular user.

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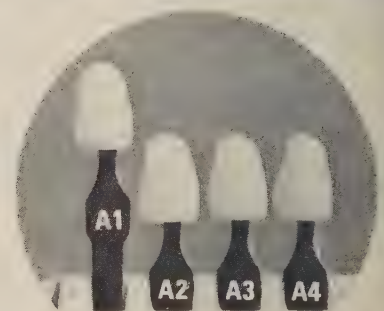
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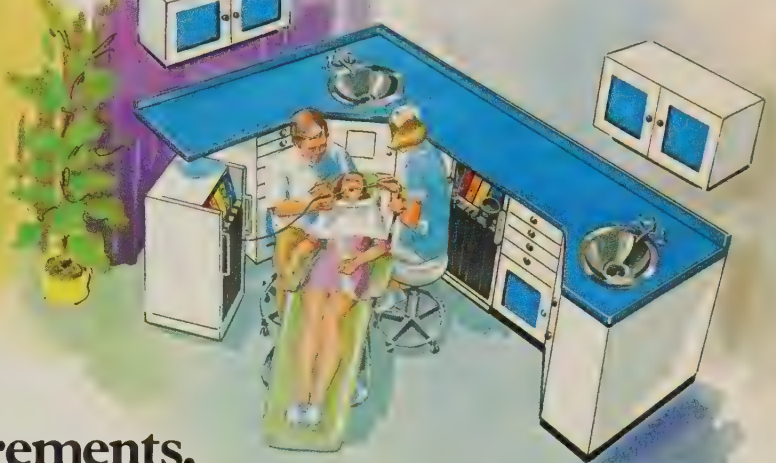
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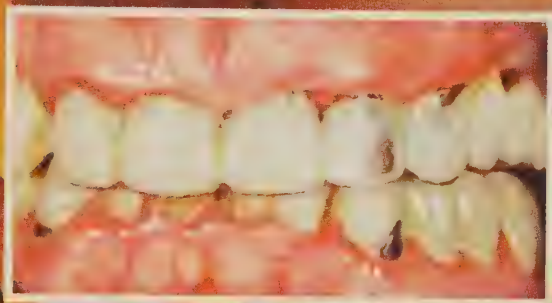
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Cancer of the mouth

Early diagnosis is the key to successful treatment of cancer of the mouth. Unfortunately in its earliest stages, neoplasia is not easy to diagnose with certainty. In the investigation of these lesions and of those that simulate them, clinical experience, a high index of suspicion and a thorough knowledge of the pathological processes involved are all needed.

In this issue of the Journal of the Canadian Dental Association, a series of articles describes the current concepts of the various aspects of cancer of the mouth. Clinical features of squamous cell carcinoma, the epidemiology of the disease, techniques of investigation and methods of treatment are discussed. Other diseases that may lead to or simulate neoplasia are described as are salivary tumours. Emphasis has been placed throughout on the early features of this important group of diseases.

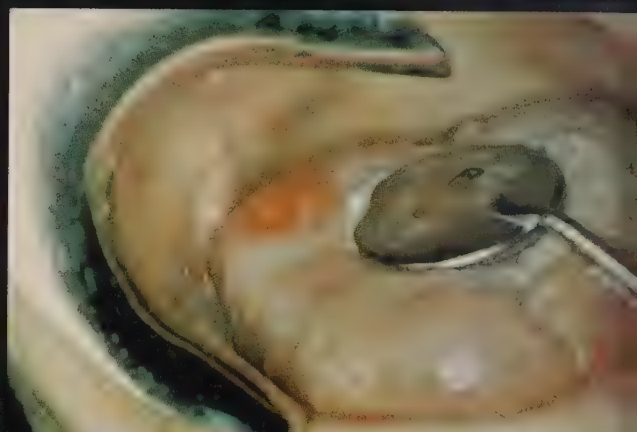


Prepared through the courtesy of J.H.P. Main, Professor of Oral Pathology, Faculty of Dentistry, University of Toronto; Head, Department of Dentistry, Sunnybrook Hospital; President-Elect, Canadian Academy of Oral Pathology.

Some typical lesions of the oral cavity



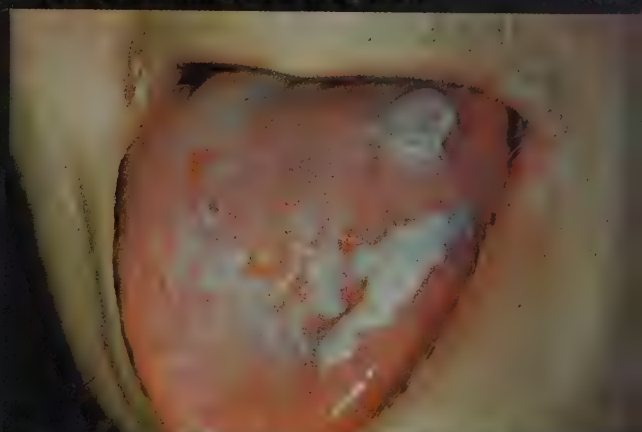
1 Squamous cell carcinoma of the lip presenting as an indurated mass with a few flecks of keratin on the surface.



4 Squamous cell carcinoma of the tongue presenting as a red patch.



2 Squamous cell carcinoma of the floor of the mouth presenting as an ulcer with rolled margins.



5 Chronic candidosis in a patient with chronic endocrine deficiencies.



3 Squamous cell carcinoma of the tongue presenting as a white patch.



then planus of the buccal mucosa
h a central erosion.



hyperkeratosis of the buccal mucosa
e to chronic cheek biting habit.



ucoplakia of the floor of the mouth. Biopsy revealed
e lesion to be at the stage of carcinoma-in-situ.



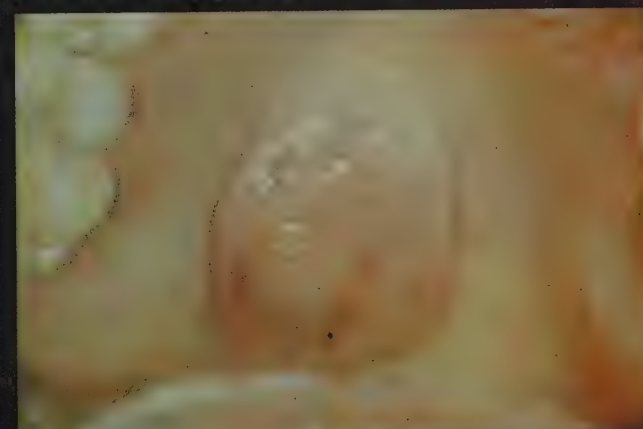
apilloma of the
ft palate.



10 Fibro-epithelial polyp of
the buccal mucosa.



11 Pleomorphic adenoma of the
palatal salivary glands.



12 Adenoid cystic carcinoma
of the palatal salivary glands.

Figure 4 was provided by courtesy of Dr. J. D. Spouge, Vancouver. Figure 9 was provided by courtesy of Dr. S. Kennett, Winnipeg. All other colour illustrations were provided by courtesy of Dr. J. H. P. Main, Toronto.

Salivary tumours of the mouth

J.H.P. Main, BDS, PhD, FDS RCS(Edin),
MRC Path
Toronto

The range of tumours that may develop in salivary glands is surprising, and as the incidence of salivary tumours is not very high, it was only comparatively recently that each of the tumour types was recognized and described.¹ The importance of precise diagnosis is that each tumour type has a peculiar and characteristic growth pattern and only on knowledge of this can an appropriate and effective plan of treatment be based.

The classification of salivary tumours recommended by the World Health Organization² is as follows:

- Adenomas: pleomorphic adenomas
 monomorphic adenomas
- Muco-epidermoid tumours
- Acinic cell tumours
- Carcinomas: adenoid cystic carcinoma
 adenocarcinoma
 epidermoid carcinoma
 carcinoma in pleomorphic adenoma

All of these tumours can and do arise in the intra-oral minor salivary glands. Salivary tumours have the highest incidence in the parotid but also occur in the submandibular, sublingual and all minor glands. They are rare in the sublingual. Of the intra-oral glands the most frequent site is in the palatal group of accessory glands, lying on either side of the mid-line at the junction of hard and soft palates. However, tumours also arise in the minor glands of the lips, tongue, buccal mucosa and retro-

molar area. In contrast to squamous cell carcinoma, salivary tumours are more common in the upper lip. The same range of tumours occurs in the lacrimal gland and in the mucosal glands of the nose, air sinuses and pharynx.

Pleomorphic adenoma is the commonest tumour in all sites but while it makes up around 70 per cent of all tumours in the parotid, only about 50 per cent of intra-oral tumours are pleomorphic adenomas. Conversely, adenoid cystic carcinoma constitutes about 5 per cent of all tumours in the parotid but 20 per cent of intra-oral salivary tumours. Muco-epidermoid tumours are also more common in the mouth.³

Adenomas

Pleomorphic adenoma (benign mixed tumour) — This tumour occurs at all ages from childhood onwards. It grows slowly and in many cases has been present for months or even years before the patient seeks advice. In the great majority of cases it is painless and when pain is felt, it is usually due to secondary ulceration of the mass due to trauma from a denture or from mastication. The tumour mass is usually smoothly rounded, firm in consistency and not attached to the overlying mucosa or to underlying structures. The colour is that of the adjacent mucosa unless superficial trauma has caused inflammation.

Histologically, this tumour varies greatly. The proportions of neoplastic epithelium to stroma differ greatly between tumours and both epithelium and stroma show great diversity. The occasional occurrence of cartilage or, more rarely, bone in the stroma gave rise to early theories that both epithelium and mesenchyme were neoplastic. The current view is that only the epithelium is neoplastic.⁴ In expanding the tumours compress the adjacent connective tissue, thereby forming a capsule which, however, is often incomplete and tumour cells are often in direct contact with adjacent structures in some places. This sometimes results in nests of cells being left after simple nucleation.

The pleomorphic adenoma is a benign tumour and recurrence is due to incomplete removal.

Monomorphic adenomas — Monomorphic adenomas (adenolymphoma, oxyphilic adenoma, basal cell adenoma, clear cell adenoma) have a much lower incidence than pleomorphic types, although examples of all have been reported from the mouth.

Their clinical features do not differ significantly from those described for pleomorphic adenoma.

Muco-epidermoid tumours

These tumours occur at all ages from childhood onwards. They are found in the usual intra-oral sites but occasionally occur within bone also, presumably from salivary tissue enclaved during development. Again they usually present as a painless mass, the rate of growth being rather more rapid than the benign tumours. They are not encapsulated and, hence, it is difficult to be sure of the extent of the lesion. The tumours may be solid or cystic, the cysts containing mucus. Muco-epidermoid tumours form a spectrum of malignancy with comparatively benign, easily removed examples at one end to aggressive, infiltrating and metastasising examples at the other. The majority are relatively benign. The more malignant types grow more rapidly and may ulcerate spontaneously.

Histologically, those of low grade malignancy have a preponderance of mucous cells while those of high grade malignancy are composed largely of epidermoid and intermediate cell types.

No muco-epidermoid tumour can be considered entirely benign and hence treatment has to be more radical than with the adenomas.

Acinic cell tumours

This is the least common tumour of the oral salivary glands. Presentation is usually as a painless

mass, encapsulation being absent, and all ages are affected. Growth is slow and although invasion and metastases both occur, they are late features of this lesion, and many examples behave in a benign manner. Unfortunately, microscopic appearance is not an accurate indicator of biological behaviour.

Carcinomas

Adenoid cystic carcinoma — This tumour is much more frequent in the mouth than in the major salivary glands, and in most series it makes up about 20 per cent of the intra-oral salivary tumours. It usually presents as a painless mass but spontaneous ulceration and pain sometimes occur. Its growth is slow although somewhat more rapid than that of the adenomas. Bone destruction occurs fairly slowly and may not be evident radiographically at first presentation. The tumour occurs in adults of all ages.

The most important feature of this neoplasm is its infiltrating capacity, in particular its ability to invade perineural spaces. Long tentacles of tumour cells extend outwards from the main mass and are not detectable clinically. These thin strands are often left after surgical excision of the primary tumour, subsequently giving rise to recurrence that is often multifocal. Hence, recurrence is common and the recurrences are usually more difficult to treat.

In common with other malignant tumours, the best opportunity to cure the patient is by radical surgery at the time of first presentation.⁵ The results of radiotherapy have been equivocal. Metastases are seen late in this disease, usually after one or more recurrence, and develop in the regional lymph nodes and more widely. The mortality rate from this disease is high, although most patients live for more than five years before succumbing.

Adenocarcinoma — There are a number of subtypes of salivary adenocarcinoma, such as solid, trabecular, and cyst-adenocarcinoma, but all have essentially the same clinical features. All are rare, constituting less than 10 per cent of the total, both in the major and minor glands and they occur mostly in the seventh and subsequent decades of life. Their clinical course is more rapid than that of any other salivary tumour, and pain, ulceration and bone destruction are all seen early. Adenocarcinoma in the palatal glands frequently invades the nasopharynx or maxillary air sinus. Metastases to the regional lymph nodes occur early and are often detectable on presentation.

Epidermoid carcinoma — This tumour develops occasionally in salivary glands but in the intra-

oral examples, tumour extension rapidly involves the overlying epithelium so that the histogenesis is difficult to determine. Hence, most reported examples have been from the major glands. The clinical features do not differ from those of squamous carcinoma of the oral mucosa.

Carcinoma in pleomorphic adenoma – Malignant transformation can occur in pre-existing benign adenomas, in most cases after the antecedent growth has been present for over 10 years. Due to the slow growth and absence of symptoms, many benign lesions have been left without treatment for this period or they have been inadequately removed. After the long period of quiescence the tumours suddenly start to enlarge, they may ulcerate and pain may develop. This history is very much less common with intra-oral tumours, presumably because these lesions are much more obvious to the patient than are small growths in the major glands. Carcinoma *ex* pleomorphic adenoma may be of the adeno- or epidermoid variety and follows the clinical course described for these conditions.

Primary malignant mixed tumour is a rare lesion that contains elements typical of the benign pleomorphic adenoma plus infiltrative features characteristic of malignancy. They infiltrate adjacent structures and will metastasise although this is usually a late feature.

Mikulicz-Sjögren syndrome

The sicca syndrome⁶ consists of dryness of the mouth (xerostomia), dryness with burning and itching of the eyes (xerophthalmia), rheumatoid arthritis or one of its associated conditions, and enlargement of the salivary and/or lacrimal glands. It is much more common in women and occurs chiefly in the fifth and sixth decades.

The condition arises by an auto-immune mechanism. The swelling of the salivary glands may simulate neoplasia although it is usually bilateral. The intra-oral glands are almost always involved in the process, which is essentially a lymphocytic infiltration of the gland parenchyma with destruction of the acinar elements, but they do not always swell.

Investigation and diagnosis of intra-oral salivary neoplasms

From the foregoing account of the clinical features of these tumours, it can be seen that the clinical diagnosis of salivary neoplasms is far from easy. The long history of the presence of a swelling with no obvious cause which is so often obtained helps the clinician to be reasonably sure that he is

dealing with a benign adenoma. But the length of history, and the other features, of adenoma overlap and are often inseparable from those found in cases of muco-epidermoid tumours, acinic cell tumours and adenoid cystic carcinomas. Cystic types of muco-epidermoid tumour have appearances very similar to the mucocele. The aggressive and destructive features of the adenocarcinoma usually help in arriving at a clinical diagnosis.

The site of occurrence within the mouth may also aid diagnosis. A swelling developing unilaterally at the junction of the hard and soft palates points strongly to a salivary neoplasm, but a lump developing in the buccal mucosa, lip or tongue may be any of a variety of neoplasms or a non-neoplastic condition.

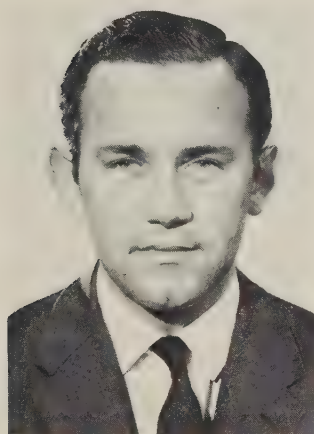
As it is necessary to know the precise nature of the tumour for effective treatment and in view of the considerations just described that make clinical diagnosis difficult or even impossible, biopsy is the only investigative procedure that can invariably be recommended. Small, easily removed masses may be treated by excisional biopsy. Large lesions require incisional biopsy that may be done as an independent operation before surgical treatment is decided on, or it may be carried out as the initial part of an operation, the extent of the consequent resection depending on the result of the microscopic examination of frozen sections. Needle or punch biopsies are other techniques that may be employed but in general these do not give as extensive information as may be obtained from the more usual incisional biopsy.

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Benign lesions simulating oral cancer

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It is fortunate that benign, tumour-like lesions of the oral cavity are far more commonly encountered in dental and medical practice than are frank neoplasia. However, there is often such a close clinical resemblance between these lesions that the practitioner must be constantly on guard and subject every suspicious lesion to close clinical and

histopathological scrutiny. His role in the early diagnosis of oral cancer is a crucial one because long-term survival is closely linked with early recognition and treatment.

All classifications have inherent limitations since the aetiology of many of the conditions is uncertain, but for purposes of discussion they will be described under the following headings: (1) developmental lesions, (2) inflammatory hyperplasias, (3) benign tumours, and (4) miscellaneous lesions simulating cancer.

Developmental lesions

Pigmented naevus — these lesions (birthmarks) are among the commonest developmental lesions found on the skin. Despite their frequency, however, they are rarely encountered in the oral cavity, although recent reports indicate they may not be as infrequent as has been supposed.^{1,2} Clinically, pigmented naevi can occur at any age and anywhere in the mouth, the palate, gingiva and buccal mucosa being the areas most commonly involved. The naevus itself may appear as a smooth, sessile, pigmented nodule or as a flat, localized, brownish-black spot usually less than 1 cm in diameter. These lesions must be distinguished from other pigmented lesions such as the “amalgam tattoo” which can easily be done by radiographic examination, or the common oral varix (dilated vein) which

may be differentiated by applying digital pressure and causing it to blanch (a naevus does not change its colour following this manoeuvre).

Pigmented naevi are histologically classified as intradermal, compound, junctional or blue naevi depending on where melanocytes are found. The intradermal variety is the commonest type found in the oral cavity. This is fortunate because most malignant transformation are thought to arise from the junctional variety. The relationship between pigmented naevi and malignant change is still uncertain, however, although evidence suggests that the appearance of a naevus in adult life may be associated with a higher incidence of malignant change.³ Haemorrhage and ulceration associated with a pigmented lesion are also regarded as ominous signs and must be diligently looked for.

Pigmented naevi may simulate malignant melanoma and diagnosis cannot always be made clinically. A safe policy is, therefore, to remove these lesions surgically and have them examined microscopically, particularly those that have suddenly appeared in later life, or longstanding lesions that bleed, ulcerate or darken in colour.

Median rhomboid glossitis — This interesting developmental defect is thought to result from failure of the lateral lingual swellings of the first branchial arch to overgrow the tuberculum impar during foetal life.⁴ Clinically, it appears as a red, raised, diamond-shaped area devoid of filiform papillae in the midline at the junction of the anterior two-thirds and posterior third of the tongue. The appearance of the lesion may simulate carcinoma of the tongue but the shape and position of the defect usually is pathognomonic and biopsy is rarely required.

Lingual thyroid — This rare but important developmental abnormality results from the formation of the thyroid gland as an epithelial proliferation that grows down into the neck from the site of the future foramen caecum of the tongue. The condition presents clinically as a midline, smooth, sessile swelling (Fig 1) but can again be differentiated from a malignant lesion by its smooth appearance and characteristic site. Under no circumstances, should an excision biopsy be carried out since in certain instances this may be the only functioning thyroid tissue.⁵

Inflammatory hyperplasias

Although this heading is not completely satisfactory, it is used to distinguish lesions that are essentially an exaggerated response to chronic minor trauma or irritation, and as a general rule do not possess the property of independent growth.

Until it was realized that these lesions all arose from the same pathogenetic process, they were looked on as separate entities and went under many different names such as fibrousepulis, pregnancy epulis, polyp, epulis fissuratum, etc. They are all now considered to be inflammatory hyperplasias, except for the giant-cell granuloma that probably has a different pathogenesis.

Fibro-epithelial polyp — These localized overgrowths of connective tissue are responsible for the most common tumour-like lesions encountered in the oral cavity. They arise as a result of trauma and may be present anywhere in the mouth, particularly on the cheeks, tongue and lips. The lesion should not be referred to as a fibroma since this implies a benign neoplastic origin; in fact, the true fibroma is extremely rare in the oral cavity.⁶ Clinically, fibro-epithelial polyps appear as smooth, pedunculated, pink masses, usually 1–2 cm in diameter, although occasionally they may attain a considerable size. Their differentiation from carcinoma is usually simple due to the lack of ulceration and induration. However, since they are liable to further trauma, excision biopsy with histopathological examination is indicated.

Epulis fissuratum (denture hyperplasia) — The prolonged wearing of ill-fitting dentures is often responsible for inflammatory mucosal hyperplasia known as epulis fissuratum which appears in the oral cavity as redundant folds of mucous membrane associated with the denture flange. Clinically, this appearance may vary from small tags of redundant mucosa attached to the periphery of the alveolar ridge to extremely complex variegated folds of tissue obliterating the sulcus. In some cases the tissue is inflamed and ulcerated and may resemble carcinoma very closely. In fact, denture hyperplasia may occasionally be associated with frank malignancy⁷ although the lesions are not regarded as premalignant. Nevertheless, all tissue removed in treatment should be submitted for histopathological examination. It is also essential to realize that carcinoma of the maxillary antrum may invade the buccal sulcus and simulate epulis fissuratum (Fig 2). If there is the slightest suspicion of such an eventuality an occipito-mental (Water's) view of the sinuses must be taken, and erosion of the bony walls carefully excluded.

Pyogenic granuloma — This common tumour again arises as a result of an exaggeration of the inflammatory and reparative response to minor irritation in susceptible individuals. The tumour does not contain "pus" as the name implies but the ulcerated surface is covered by a pyogenic membrane. The bulk of the tumour is composed of a highly

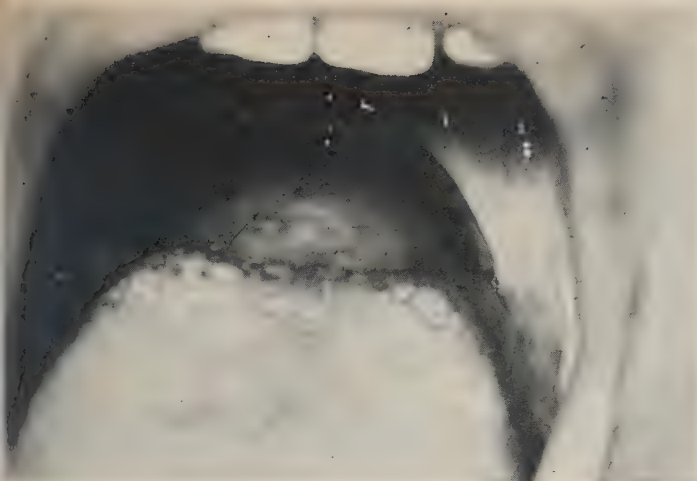


Fig 1 Lingual thyroid presenting as a smooth midline "polyp" attached to dorsum of tongue.

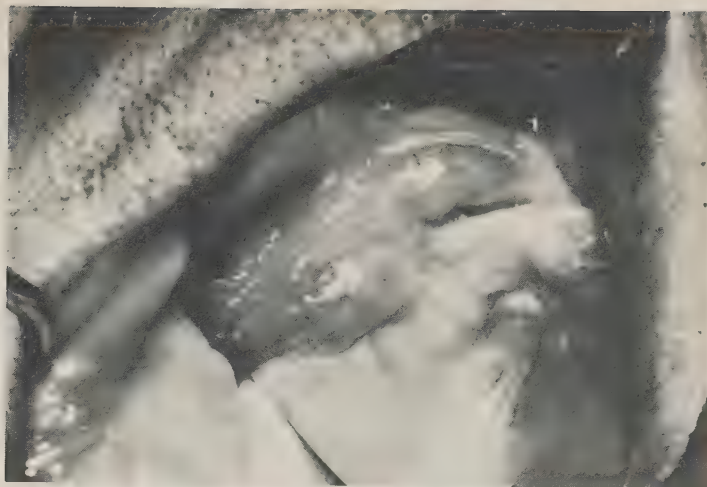


Fig 2 Epidermoid carcinoma of the right maxillary antrum simulating denture hyperplasia of the buccal and labial sulcus.

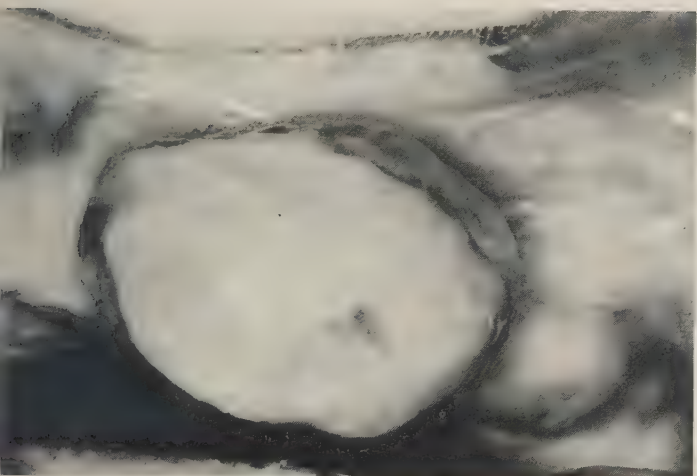


Fig 3 Large pyogenic granuloma of the anterior maxillary alveolar ridge. Note the resemblance to exophytic epidermoid carcinoma.

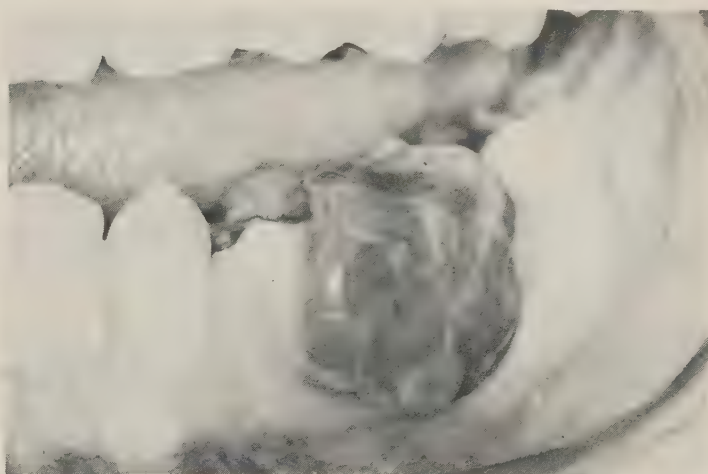


Fig 4 Peripheral giant-cell reparative granuloma (myeloid epulis) arising from the bicuspid gingival area. Note the vascularity of the lesion and interference with mastication that has taken place.

vascular granulation tissue not unlike a haeman-
ioma.⁸ Clinically, the lesion may occur anywhere
in the oral cavity but the gingiva is the most
frequent site. The tumour appears as a bright red,
oval or circular, sessile or pedunculated swelling
covered by an ulcerated, dirty-grey membrane. The
latter is frequent in the traumatized lesion, a con-
dition which may not be easy to distinguish from
exophytic carcinoma (Fig 3); the diagnosis must
then be made on a histopathological basis.

Pregnancy tumour — During pregnancy there is an
altered response of the gingival tissues to local
irritants. This may result from hormonal changes
or a general increase in vascularity that takes place
in pregnancy. Occasionally, a large localized area of
inflammatory hyperplasia may be associated with a
gingival papilla which is then referred to as a
pregnancy tumour. If the lesion becomes trauma-
tized and ulcerated, it will resemble a pyogenic
granuloma from which it cannot be distinguished

either clinically or histologically. Diagnosis will
then depend on the history of pregnancy.

Peripheral giant-cell reparative granuloma — Also
known as myeloid epulis or giant-cell epulis, this
rather rare tumour-like lesion found on the gingiva
derives its name from the fact that the connective
tissue stroma of the lesion contains numerous
giant-cells. Although it is thought to arise some-
times as a result of irritation to the gingiva,
spontaneous growth may occur.

Clinically, the lesion appears as a sessile or
pedunculated, purplish red mass attached to the
gingival papilla (Fig 4). The buccal or labial gingiva
furnishes the commonest sites, particularly in the
bicuspid areas.⁹ The lesion is soft and highly
vascular, characteristics which help to differentiate
it from the fibrous epulis. The tumour may rarely
grow to a considerable size, causing separation of
adjoining teeth and some underlying bone re-
sorption. Diagnosis is made on clinical and histo-

pathological features and although simple excision is the treatment of choice, recurrences are not uncommon.

Benign tumours

Since the oral region contains all the basic tissues of the body, a dentist may encounter nearly all types of benign neoplasms, such as fibroma from fibrous connective tissue, lipoma from fat, neurofibroma from nerve tissue, etc. But unlike the lesions described in the previous sections, these conditions are of relatively rare occurrence. From a clinical standpoint, differentiation from malignancy is the essential feature. This is usually possible on history and examination alone. The benign neoplasm tends to be slow-growing, painless, smooth and well demarcated. It is not associated as is its malignant counterpart with loosening or erosion of teeth or anaesthesia. However, from a practical point of view, biopsy is indicated if the least doubt exists.

A detailed discussion of the benign neoplasms which may occur in the oral cavity is beyond the scope of this article and only the papilloma will be included in this section since it has special relevant features.

Papilloma — This benign tumour arises from epithelium and should not be confused with the fibro-epithelial polyp previously described. It usually appears as a cauliflower-shaped, pedunculated tumour anywhere in the mouth. The soft palate, buccal mucosa and tongue are the most commonly involved sites. The surface of the tumour may be keratinized and appear white, or it may be unkeratinized and pink. When large, the lesion may simulate epidermoid carcinoma. Warts (*verruca vulgaris*) are sessile papillomas of viral aetiology that occasionally occur in the mouth). All papillomas should be excised and subjected to histopathological examination.

Miscellaneous lesions simulating cancer

Chronic ulceration — Chronic ulceration due to trauma may simulate epidermoid carcinoma. The lesion appears as a localized depression surrounded by an erythematous zone. The base consists of granulation tissue whose surface may appear grey due to slough and debris. An important feature to look for is the margin which in a traumatic ulcer is not everted or rolled as in a neoplastic ulcer. Also absent is the induration that is associated with an ulcer due to epidermoid carcinoma. Often, however, the differential diagnosis is difficult. A wise plan to follow in these cases is first to remove the cause of the suspected ulcer, such as a rough tooth

or restoration, and if healing does not ensue within 10 days to submit the area to biopsy examination.

Mucocele (mucous cyst) — This very common lesion is considered to be an extravasation of mucus resulting from rupture of the duct of an intra-oral mucous gland. The most frequent site affected is the labial mucosa of the lower lip and this is thought to be related to the higher incidence of trauma in that region during mastication.⁹ The lesions appear as smooth, well circumscribed swellings with a characteristic bluish tinge. Early on they are usually soft but in long-standing cases, the mucus may become inspissated and the lesion may be quite firm to palpation. Histological examination is necessary to differentiate from neoplasms, particularly the pleomorphic adenoma involving a minor salivary gland.

Summary

A brief review of benign oral lesions that may simulate cancer has been given. As these conditions may be extremely difficult to differentiate from frank malignancy, their diagnosis demands a systematic approach. The patient must be carefully followed in order to observe any significant changes in either symptoms or clinical appearance. If the least doubt exists, the golden rule is to subject the lesion to biopsy examination at the earliest opportunity and correlate histopathological and clinical findings so that a correct diagnosis may be achieved.

Dr. Kennett reprint requests to Dept. of Oral Surgery and Oral Medicine, Faculty of Dentistry, University of Manitoba, 780 Bannatyne Ave., Winnipeg.

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Clinical features of oral cancer

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Squamous cell carcinoma is by far the commonest malignancy to occur in the mouth, with malignancies of salivary gland tissue the second most common, and the remainder a poor third. Because of its predominance, squamous cell carcinoma has become almost synonymous with the term oral cancer and for this reason it will be described separately and in greatest detail.

The prognosis for carcinoma of the lip is comparatively good¹ — probably on account of its more obvious situation, its earlier diagnosis, and its easy accessibility. By contrast, however, the prognosis for strictly intra-oral carcinoma is very poor. The principal hope for improving this situation is by earlier diagnosis, so that treatment can be instituted before the lesion has spread extensively.

Squamous cell carcinoma

Squamous cell carcinoma is mainly though not exclusively a disease of older men.²⁻⁴ The lower lip⁵ is the commonest site to be affected, with the tongue — particularly the lateral border of the middle third — a close second.⁶ Unfortunately, pain rarely is present in the early stages. Usually it only arises late in the disease, often in association with superficial secondary infection developing on the ulcerative type of lesion. Interference with function in the form of impairment of speech, swallowing and mastication also tends to be associated with the advanced lesion, with the overall result that symptoms of a distressing kind are rarely encountered during the early stages of the disease.

Appearance of the early carcinoma — Because the early lesion almost invariably is “silent,” early diagnosis depends on carrying out an oral examination in a symptom-free patient. If we wait until symptoms cause the patient to seek an examination, it may well be too late. It is in this context

that dentists should realize that routine dental check-ups provide a unique opportunity for the early detection of oral cancer. They should therefore be cognizant of the possible appearances of the early lesion and, even more important, strongly motivated to look thoroughly at soft as well as hard tissues of the mouth.

The clinical presentation of any lesion is merely the gross reflection of the histopathological changes that are taking place, and it is necessary to understand the one to appreciate the other. Many cases of squamous cell carcinoma appear to progress through a number of stages. The first is focal atypia in which localized groups of suspiciously altered but not certainly carcinomatous cells are to be found in the deeper layers of the mucosa. A minority of these cases subsequently progress to show cytological changes equating them with malignant neoplasia. These malignant cells, however, are part of the surface epithelium and are still contained by the basement membrane, so that the lesion is now referred to as a carcinoma in situ. At this stage the condition is irreversible and it is just a matter of time before it progresses to the third stage when infiltration of the malignant epithelial cells into the subjacent connective tissue produces a frankly invasive carcinoma.

Many cases of focal atypia — particularly those occurring in areas of mucosa subjected to chronic irritation — and all of the subsequent stages involving carcinoma in situ and early invasive carcinoma are associated with localized areas of proliferation in the surface epithelium. This is the feature that the clinician must understand and recognize.

The naked eye appearance of a localized epithelial proliferation depends mainly upon the degree of maturation that characterizes the majority of the proliferating cells. Following the original mitotic division that produced it, an epithelial cell may develop along one of two pathways. It can retain its potential for proliferation (which many malignant cells undoubtedly do), in which case its stage of development will correspond with that of a basal cell and it will not form keratin. Alternatively, the cell can differentiate to become fully mature and equivalent to those seen on the surface of the epithelium involved. This fully mature cell may or may not produce keratin, depending upon whether its parent mucous membrane is a keratinizing one or not, and upon the general level of differentiation achieved in the tumour. However, the main implications are that, during the process of becoming fully mature, the same epithelial cell correspondingly loses any potential for subsequent division. For this reason, any carcinoma which produces a large amount of keratin is likely to have a correspondingly reduced growth rate, because

many of the neoplastic cells will have lost their potential for proliferation. Conversely, and perhaps more important, the most highly aggressive neoplasms need not necessarily be associated with keratin formation at all.

In the skin, the dry well-formed keratin of a corn or callosity appears translucent. When wetted by saliva, however, the optical properties of keratin change and, in the mouth, it appears white and opaque. Consequently, an overgrowth of keratinizing epithelial cells in the mucous membrane frequently presents as a white patch. On the lower lip, the commonest site for oral carcinoma, the early thickening may be slight and can resemble the crusting of a cold sore. Alternatively, in situations where the area of keratin has become thick and irregular it may impart a rough, hard, leathery feeling to the palpating finger.

Prominence has been given in the literature to the association of a white lesion of this type with developing squamous cell carcinoma, but this concept should be qualified. White areas are seen frequently in dental practice, yet the great majority are benign and many represent a reactive response to chronic irritation.

Equally important is realization that early developing carcinoma need not present in this fashion at all. Rapidly growing cancers where a large majority of cells have retained their potential for proliferation, and even well differentiated neoplasms occurring in non-keratinizing epithelium, may not present as a white plaque. The chronic inflammation that develops in response to the presence of the neoplastic cells usually confers a red appearance to the affected site and may, together with unkeratinized thickening of the overlying epithelium, produce the alternative appearance of a red velvety patch. Therefore, it is important that this type of presentation be viewed with as high a level of suspicion as the better known white plaque.

In some lesions, both red and white areas may be seen adjacent to each other, producing a mottled surface. This appearance is particularly sinister, for the variation in gross appearance is simply a reflection of the equivalent underlying cytological variation which typifies aggressive neoplasia.

Appearance of the established carcinoma — With further growth, the early epithelial thickening may develop into an elevated nodule, but the subsequent appearance depends largely upon the main direction taken by the growth. If the lesion is principally infiltrative, the expanding tissue often breaks down centrally to produce a carcinomatous ulcer, this being the commonest form in which advanced carcinoma of the mouth presents. The

malignant ulcer is characterized by a "rolled" or everted edge as a result of the increased bulk produced by the invading cells in this region. The malignant ulcer also has an indolent appearance and shows little inclination to heal. Diffuse local infiltration evokes a replacement or reactive fibrosis within the surrounding tissues, and imparts a characteristically hard, indurated texture to the periphery of the lesion. Limitation of movement may result when this type of fibrosis occurs in mobile muscle tissue such as the tongue or the floor of the mouth, and "fixation" is an indication of extensive invasion. On the other hand, lesions that are exophytic and grow outward will result in a warty or fungating overgrowth. Exophytic growth has a somewhat better prognosis than the infiltrating type.

Metastatic spread of carcinoma usually involves the regional lymph nodes in the first instance; for this reason, the clinical investigation is incomplete unless the regional nodes have also been examined. The affected lymph node may be the first indication of the disease, particularly in nasopharyngeal cancers. However, the presence of palpable nodes is not proof positive that metastasis has already occurred. In secondary infection of a carcinomatous ulcer, toxic products may produce inflammatory node enlargement in the absence of metastasis. Characteristically, lymph nodes that have become the seat of carcinomatous metastasis feel stony hard.

Tumours of the lower lip tend to spread first to the submental lymph nodes. Lesions of the anterior part of the upper jaw occasionally involve the facial node on the outer surface of the mandible at the level of its lower border, just anterior to the masseter. Sometimes this causes confusion as it is a variable structure whose presence is not well recognized, being present in only approximately 50 per cent of persons. The remainder of the intra-oral tissues drain into the submandibular and upper deep cervical lymph nodes, with centrally situated lesions in the tongue and floor of the mouth, showing some tendency to metastasize also across the midline.

Other malignant oral neoplasms

The term oral cancer includes all forms of malignant neoplasms which may occur in the mouth and so embraces a very wide and varied group. Clinically, however, they present many features in common and group characteristics are best described by dividing them into salivary neoplasms, neoplasms occurring in mesenchymal tissues, neoplasms developing centrally within the jawbones, and metastatic malignancies. Salivary neoplasms are discussed elsewhere in this issue of the Journal.

Oral malignancies occurring in mesenchymal tissues

— Most neoplasms that develop in the soft tissues present as mucosal covered lumps. They may be derived from fibrous connective tissue, its vascular and neural elements, or from specialized tissues such as muscle. Sarcomatous malignancies derived from mesodermal tissues frequently occur during the second and third decades of life in contrast to epithelial malignancies, which mainly affect older age groups.

Clinical features that help to distinguish these malignant neoplasms from benign overgrowths again reflect cellular changes occurring at a microscopic level. Diffuse proliferation of malignant tissue produces an irregular shape, in contrast to the benign lesion that often appears to grow from a single focus and is usually more rounded. Malignant lesions often lack encapsulation, in contrast to the benign neoplasm where the fibrous replacement which results from the pressure of slow growth and absence of peripheral invasion usually produces a well defined capsule. In the rapidly growing neoplasm infiltration is more diffuse and widespread so that the accompanying fibrosis is less circumscribed and does not favour capsule formation. This results in induration and fixation of the lesion to the surrounding tissues, whereas benign growth is characterized by the mobile circumscribed lump.

Rapid and sustained growth and consequent larger size are associated with malignant neoplasia. In contrast to this the benign lesion usually has a history of slow growth that may go back for months or even years and a variable growth rate, whereas the malignant lesion may have a duration of weeks or only a few months of steadily increasing size. Malignant lesions also are more prone to be associated with surface ulceration and haemorrhage, which may develop either as a result of the ulceration or through neoplastic involvement of vessels in the affected area. Metastasis is a major criterion of malignancy and, while epithelial cancers usually spread via the lymphatics, connective tissue tumours are often disseminated via the bloodstream to the lungs, bone or brain.

Oral malignancies occurring centrally in the jawbones

— Apart from some osteosarcomas, most central lesions destroy bone. Consequently, they show up on radiographs as ragged, irregular areas of radiolucency, and can eventually produce pathological fracture. The presence of a centrally sited, malignant, space-occupying lesion of the mandible sometimes exerts an adverse influence on neural transmission within the inferior dental nerve. This may cause paresthesia, involving altered nerve

sensations such as "pins and needles" or even complete anaesthesia of the lower lip and mental region. Such a symptom should never be taken lightly and, in the absence of an acute osteomyelitis or history of recent trauma, it is essential to exclude the possibility of a central malignancy of the jawbone.

Malignant infiltration and resorption of bone may loosen adjacent teeth. Some occasional pain and swelling are also features of rapidly growing intrabony neoplasms, and it is not uncommon for teeth in such an area also to become tender to percussion. Not infrequently, this combination of clinical findings leads to a suspicion of periapical infection and even to extraction of teeth. Subsequently, failure of a socket to heal normally or overgrowth of tissue from the healing socket should arouse suspicion. In the maxilla, carcinoma that spreads from the antrum to the oral cavity may occasionally present in this way.

The radiographic differentiation of malignancy from infection is not always easy. However, reactive subperiosteal bone formation or medullary sclerosis in the more distant tissues surrounding the lesion are usually minimal in malignancy, and occasionally the growth may actually penetrate through the periosteum and present as a soft tissue mass on the surface of the jawbone.

Secondary metastatic malignancy in the oral cavity

— This occurrence is relatively rare and the mandible is the site usually affected, most commonly from primary foci in the gut, lung, thyroid, breast, kidney or prostate. The clinical presentation of such a lesion is identical with that of a primary malignancy occurring centrally within the bone. Secondary malignancies are mostly associated with bone destruction but, very occasionally,

some degree of bone proliferation and radiopacity may develop. This is most likely to occur in association with metastases from the prostate and, less frequently, the breast.

Conclusion

From the foregoing description it is obvious that the clinical presentation of local and metastatic oral cancers is highly variable. Therefore, any deviation from normal which persists in the oral mucosa without a definite diagnosis for more than two weeks should be subjected to biopsy in order to exclude the possibility of malignant neoplasia.

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The epidemiology of oral cancer

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Oral cancer is classically associated with syphilis,¹ the use of alcohol and tobacco,² and has been the subject of a number of articles in the Journal in the past few years, both from the international³ and national points of view.⁴⁻⁶ The opportunity will be taken in this article to review some of the data available on known associations of oral cancer and also that emerging from recent sources of data in

Canada, especially cancer registration. To avoid confusion and to make use of comparable sources of data, attention will be restricted to relevant classifications in the 7th and 8th revision of the International Classification of Diseases. These comprise lip cancer (ICD 140), cancer of the tongue (ICD 141), and what I shall call intra-oral cancer (ICD 143 and 144 of the 7th revision and 143, 144 and 145 of the 8th revision). Although data are available from some sources by designated intra-oral sites, the extent to which registries utilize these classifications varies and thus it is necessary to consider the amalgamated group.

International variation in oral cancer

In Table 1, age standardized incidence rates for cancer of the three sites have been tabulated for selected registries. The table includes the registry with the highest incidence rate as recorded in the source document⁷ for each site. It is apparent that high rates of lip cancer are reported from Canada with Newfoundland being the highest. In comparison, cancer of the tongue is most frequent in Bombay, which also has a high rate of intra-oral cancer, though for this site the highest frequency was reported from Puerto Rico. Within Canada the highest incidence of cancer of the tongue and intra-oral cancer is reported from Quebec, and al-

Comparison of incidence of oral cancer in males (age-standardized rates per 100,000, standard world population)

Table 1

Country and registry	Lip cancer	Cancer of the tongue	Intra-oral cancer
Canada			
Newfoundland	28.6	1.0	2.5
Quebec	9.0	2.9	3.8
Saskatchewan	21.6	0.9	1.3
USA			
Connecticut	2.8	3.2	4.0
Nevada	8.3	2.0	2.3
Caribbean			
Jamaica	0.2	3.6	3.2
Puerto Rico	1.5	6.7	7.8
Europe			
Denmark	4.8	0.5	0.7
Poland (Warsaw)	2.7	1.2	1.3
U.K. (S.W. Region)	2.8	1.2	1.3
Asia			
India (Bombay)	0.4	14.0	6.5
Israel	1.9	0.3	0.9
Japan (Miyagi)	0.1	1.0	1.1
Africa			
Nigeria (Ibadan)	0.4	0.8	1.1

though the frequencies here are no higher than in Connecticut, USA, they are higher than registries in Europe which report rates very similar to Newfoundland and Saskatchewan for cancer of the tongue and similar to Saskatchewan for intra-oral cancer.

A number of studies have been conducted into the pathogenesis of oral cancer internationally with special concentration on the high frequency in southeast Asia. Pindborg³ pointed out that several studies indicated a decreasing frequency of oral cancer up to 1965 and suggested that this may be attributed to improvements in standards of oral hygiene. He discussed leucoplakia, erythroplakia and oral submucous fibrosis as predisposing conditions and commented on the association of tongue cancer with liver cirrhosis, suggesting an indirect association with alcoholism. As eliciting factors, he was impressed by the weight of evidence incriminating various preparations of tobacco.

Subsequent studies have continued to incriminate the use of tobacco in various forms as a strong association for oral cancer. However, the extent to which it is the tobacco that is important or various additives such as lime or other constituents of mixtures taken in southeast Asia, such as betel, has yet to be determined.

Hirayama,⁸ after investigations in several countries in central and southeast Asia, produced evidence for the association of oral cancer with the habit of chewing tobacco and a less marked association with smoking, the drinking of alcohol and vegetarian dietary customs.

Brown et al⁹ from the southeastern United States reported the association of oral cancer with the practice of "snuff dipping," a practice whereby the addict places a pinch of the flavoured powdered tobacco mixture in the gingival buccal gutter area and sucks on the quid most of the time he or she is awake. Females seemed to be affected at least as often as males. The authors commented that many patients were ashamed of the practice and did not reveal it until closely questioned.

Dunham¹⁰ reviewed the geographic distribution of oropharyngeal cancer and of chewing habits involving various plant materials and additives including lime. She concluded that suspected plant carcinogens incorporated in habits such as betel quid and nass chewing were likely to be responsible. The betel quid includes the seed of the areca palm, leaf of a pepper plant and plant substances containing tannins with variable additions of tobacco and spices such as cardamon, cloves, cinnamon, fennel or nutmeg. The nass includes tobacco, wood ash, water and oil of cotton seed or sesame. Variable amounts of lime are added to both betel and nass. In Latin America coco, usually with added lime, is chewed in several areas.

Cawson¹¹ reviewed the association of leucoplakia and oral cancer. He considered several different types which he classified as developmental, frictional keratosis, smokers' keratosis, and syphilitic. All under certain circumstances were pre-cancerous lesions. He distinguished lichen planus which is not a pre-malignant condition.

Mehta et al,¹² following a sample survey in an area of Maharashtra State inland from Bombay in India, found that 54 per cent of the individuals surveyed practised chewing and smoking habits. Among males, the most common habit was chewing tobacco with lime, whereas among females the commonest habit was the use of burned tobacco called mishri, which was used initially for cleaning teeth but subsequently became a substance of addiction. These habits appeared to be associated with both leucoplakia and oral cancer.

Pindborg et al,¹³ reporting on a survey in a district in Andhra Pradesh in south India, commented on the habit of reverse smoking whereby the lighted end of a primitive cigarette is placed inside the mouth, resulting in a high frequency of leucoplakia on the palate and an association with oral cancer at the same site. The smoking implement

Incidence of oral cancer in males of any age, 1969-71 (age-standardized rates per 100,000 by indirect method)

Table 2

Province	Lip cancer	Cancer of the tongue	Intra-oral cancer
Newfoundland	25.6	1.22	1.53
Prince Edward Island	15.0	0.48	1.93
Nova Scotia	9.4	1.09	2.96
New Brunswick	13.7	0.93	2.78
Quebec	5.0	2.39	3.79
Manitoba	11.7	1.14	2.27
Saskatchewan	15.8	1.15	1.27
Alberta	11.5	0.98	1.56
British Columbia	4.8	1.76	1.90

Mortality from oral cancer in males aged 25 or more, 1967-71 (age-standardized rates per 100,000 by direct method)

Table 3

Province	Lip cancer	Cancer of the tongue	Intra-oral cancer
Newfoundland	1.53	1.32	1.12
Prince Edward Island	1.70	0.49	0.64
Nova Scotia	0.87	1.11	2.03
New Brunswick	1.34	1.48	1.54
Quebec	1.47	3.42	3.36
Ontario	0.45	1.92	2.16
Manitoba	0.54	0.75	1.40
Saskatchewan	0.35	1.19	0.38
Alberta	0.45	1.22	0.54
British Columbia	0.46	1.28	1.19

used is called a chutta and is formed from a roll of tobacco grown in the neighbouring areas.

The continuing reports on the health consequences of smoking from the US Public Health Service¹⁴ also describe a number of studies confirming the association of smoking and oral cancer.

The mouth thus seems to be the site where pipe smokers have at least as high a risk as cigarette smokers. This finding contrasts sharply with lung cancer. However, not all studies consider only tobacco and plant products. Thus oral cancer may well be associated with carcinoma of other sites,¹⁵ while its association with cirrhosis of the liver and independently with both heavy alcohol consumption and heavy smoking² must be borne in mind.

Data from Canada

Philips has commented on the decline in mortality from oral cancer in males during the period 1944 to 1963.¹⁶ As mortality rates often reflect incidence rates, this might suggest that the incidence of the disease was falling even though this phenomenon was occurring at a time when advances in treatment might well be expected to result in improvements in survival rates and consequent declining mortality rates. There is some evidence that this occurred, at least for females in Britain over the period 1935-9 to 1945-9.¹⁷

Although no long-term incidence data for Canada as a whole are readily available, since 1969 incidence data from nine provinces have been collected in a systematic way in the National Cancer Reporting System. This information comes from provincial tumour registries who regularly report cases registered with them to Statistics Canada. So far reports are available for the years 1969, 1970

and 1971¹⁸⁻²⁰ and these have been used to produce the age standardized rates set out in Table 2. For lip cancer, the high incidence in Newfoundland is confirmed as is the low incidence in Quebec and also in British Columbia. The prairie provinces have a moderately high incidence as have New Brunswick and Prince Edward Island. For cancer of the tongue, although the incidence rates are very much lower than for lip cancer, there is an almost uniform rate across the country except for the high rates in Quebec and British Columbia. For intra-oral cancer the highest rate is again to be found in Quebec with lower but still substantial rates in New Brunswick and Nova Scotia and much lower rates in other parts of the country.

When considering differences such as these, it is important to eliminate as far as possible biases such as different intensity in reporting. The most complete registration of cancer in Canada is probably to be found in Saskatchewan, closely followed by Manitoba. In Alberta, it is known that up to 20 per cent of cases for some sites are missed and in Quebec there is doubt that complete reporting is achieved for a number of sites. For British Columbia there are problems over potential over-registration to the extent that previously diagnosed but not registered cases are probably entering into the registry when they are reported on death certificates. Thus incidence cases for previous years are still appearing in more recent years. In Nova Scotia, cases reported by death certificates only are not included. However, none of these differences explain the patterns which stand out from this table, namely the high frequency of lip cancer in Newfoundland and the high frequency of cancer of the tongue and intra-oral cancer in the province of Quebec.

Unfortunately Ontario is not yet a contributor to the National System, but recently published

County	Rate per 100,000 inhabitants
Compton	23.4
Wolfe	20.6
Kamouraska	20.3
L'Islet	18.7
Frontenac	17.1
Montmagny	15.2
Iles de la Madeleine	15.0
Lotbinière	14.6
Soulanges	14.6
Labelle	14.2
Maskinongé	14.1
Matapédia	13.7
Rivière-du-Loup	13.5
Québec	13.4
Huntingdon	13.0
Bellechasse	12.8
Montmorency No. 2	12.3
Charlevoix-Ouest	12.2
Mégantic	12.1
Saint-Hyacinthe	11.9

data from the special Ontario cancer incidence survey of 1964 to 1966²¹ enable rates to be calculated for 1966 for comparison with the rest of Canada. For males these are 6.6 per 100,000 for lip cancer, 1.9 for cancer of the tongue and 3.5 for intra-oral cancer. Age adjustment to the 1971 Canadian population does not alter these rates. Thus, although the figures are not exactly comparable, it would seem, as was pointed out by Anderson,⁴ that the rates for Ontario are very similar to those for the province of Quebec, though maybe a little lower for cancer of the tongue and intra-oral cancer and a little higher for lip cancer.

Confirmation of these inter-provincial differences is found from examination of the mortality from oral cancer in recent years as set out for each province in Table 3. It is important to note that these rates are not directly comparable to Table 2, partly because they cover a five year period, but mainly because they are related to males aged 25 or more.

For lip cancer it is apparent that the mortality is approximately three times as great in Quebec and all provinces east as in Ontario and all provinces west. For cancer of the tongue mortality is highest in Quebec with Ontario some way behind and the rest of the country rather similar. For intra-oral cancer, again mortality is highest in Quebec, followed by Ontario, fairly stable elsewhere except for low rates in Saskatchewan and Alberta.

Although Newfoundland is among the five provinces with a high mortality for lip cancer, its rate

is far lower than might have been expected from the incidence rates. This suggests that a considerable part of the excess incidence for lip cancer in Newfoundland may be due to a relatively benign form of lip cancer with a low force of mortality. Lip cancer in Newfoundland is now the subject of a special epidemiological study examining the hypothesis that occupation may be linked, particularly some aspect of the fishing industry.

The predominance of Quebec in both incidence and mortality for cancer of the tongue and intra-oral cancer, although known or inferred for some time,^{4,22} suggests that further examination of figures from Quebec might be rewarding. Published figures are now available for incidence of cancer by census district.^{20,23} Although these do not distinguish cases in males and females and include within the published figures the three sites being discussed here together with cancer of the pharynx, some idea of the geographical distribution of oral and pharyngeal cancer can be obtained from them. Table 4 lists the rates for the top 20 counties in Quebec. When these and rates for the remaining 54 counties are plotted on a map of Quebec, it becomes apparent that all the six counties with the highest rates and several of the others on the table are concentrated in the area of the Eastern Townships of Quebec from east of Sherbrooke up to the beginning of the Gaspé Peninsula and southeast of the St. Lawrence River. The county of Quebec is among the top 20 but the rates for the counties comprising the Ile de Montréal et Jésus (10.7) are only just above the rate for the province as a whole, namely 9.3. These observations are difficult to interpret and need confirmation by a more detailed breakdown of the available data, possibly with incidence data for 1972 when they become available and with age standardization; but they do suggest that a case control study of the determinants of oral cancer in the Eastern Townships might be rewarding.

Incidence of oral cancer by age

In all three sites being considered, oral cancer is essentially a disease of older ages though the rate of increase with age varies for the three sites (Table 5).

After a slow rise to ages 40 to 44, lip cancer demonstrates a progressive, almost linear, rise with age from 45 up to 85, with very high rates in the 85 and over age group. Cancer of the tongue has the lowest rates at all ages of the three sites but shows a slow progressive linear rise in rates with

very little variation. Intra-oral cancer has very similar rates to cancer of the tongue up to ages 45 to 49, then shows higher rates but with a slow rise up to age 75 to 79 and really substantial rates only in the older age groups.

It is of interest that at ages 85 and over there is no reduction in rates as is seen for the other smoking induced cancers, namely cancer of the larynx and lung. The reduction in rates at older ages in these two sites is believed due to a cohort effect, the older age groups belonging to cohorts that did not acquire the smoking habit to the same extent as younger cohorts. That this effect is not seen in oral cancer suggests that either there are different causative factors operating for different cohorts, or that the type of tobacco use favoured by old people (pipes and possibly chewing) requires a shorter latent period to exert an effect or is more liable to cause oral cancer in the elderly.

Anderson⁴ commented on a fall in the case rate in Ontario in the 65-84 age group between the periods 1933-52 and 1962-66 that was not observed in the 45-64 age group. These figures are based on the new oral cancer cases registered at the Ontario Cancer Clinics and thus those cases referred for consideration of radiotherapy. Unless therefore the referral pattern in recent years has been away from radiotherapy this is further evidence that oral cancer in the older age groups may be less attributable to smoking than in younger age groups. Longer term observation of true incidence rates at different ages may help to unravel these anomalies. However, it is relevant that for another cancer associated with smoking, cancer of the bladder, the same rising incidence with age is seen as for oral cancer. Cole et al²⁴ demonstrated that the amount of excess bladder cancer attributable to smoking in men decreased with rising age, falling from 54 per cent at ages 20-59 to 41 per cent at ages 60-74 and only 19 per cent at ages 75-89. It seems possible that the same decrease in attributable risk would be found for oral cancer.

Oral cancer in females

So far, all the data presented, with the exception of that for the distribution by county in Quebec, has been for males only. The male to female ratio for the incidence of cancer for the three sites in Canada for the last three years is 16.1 for lip cancer, 2.3 cancer of the tongue, and 2.8 for oral cancer. These last two ratios are quite similar to that for pharyngeal cancer but differ markedly from that of the other adjacent anatomical site,

Incidence of oral cancer by age in males, Canada (except Ontario) 1969-71 (mean annual rates per 100,000)

Table 5

Age	Lip cancer	Cancer of the tongue	Intra-oral cancer
25-29	1.0	0.1	0.0
30-34	1.7	0.0	0.3
35-39	4.4	0.4	0.5
40-44	5.3	0.8	1.0
45-49	10.0	2.8	2.9
50-54	17.1	3.2	6.3
55-59	25.2	4.8	7.2
60-64	35.1	7.8	11.0
65-69	44.1	9.6	13.6
70-74	52.3	9.8	15.1
75-79	69.0	13.5	19.2
80-84	72.8	14.2	27.7
> 85	115.8	18.1	44.3

namely salivary gland tumours, where the male to female ratio is 0.9. Although the numbers of female cases registered are much smaller than for males and therefore less confidence can be placed on the rates, the differences observed in the incidence of the three types of oral cancer in males are not seen in females. Thus for lip cancer, the highest rate is found in Saskatchewan (1.3) with Alberta close behind (1.2); in Newfoundland the rate is 1.0 and lower rates are found in the rest of the country with the lowest in Quebec (0.2). For cancer of the tongue, the highest female rate is in British Columbia (1.2) with Quebec (0.7) fourth highest, lower than Manitoba (1.1) and similar to Nova Scotia (0.7). For intra-oral cancer, the highest rate is again in British Columbia (1.3) and the second in Manitoba (1.1), Quebec again having the fourth highest rate (0.9) with New Brunswick (1.0) a little higher. Incidence data on females available from the Ontario cancer incidence survey of 1966 suggest a low incidence for lip cancer (0.3), though higher than Quebec, a moderately high incidence for cancer of the tongue (0.8), again higher than Quebec, and possibly the highest incidence in the country for intra-oral cancer, a rate of 1.5 per 100,000.

The increase in incidence with age is very similar to that described for males, though at a much lower level, especially for lip cancer. High rates (of the order of eight to 12 per 100,000) are seen only at ages 80 or more for all three sites.

The mortality rates for females are low and deaths from lip cancer extremely infrequent. Mortality from cancer of the tongue is highest in British Columbia (1.0) with Quebec number two on the list (0.8), very similar to Ontario. Mortality

from cancer of the tongue exceeds that from cancer of the lip in nearly every province. Mortality from intra-oral cancer is highest in British Columbia (0.8) with Alberta, Quebec and Ontario having very similar rates (0.6).

Except for lip cancer, which in males probably often has an occupational origin, these are the sort of differences that would be expected for a disease associated in males with smoking and tobacco products; indeed it is possible that in Canada very little female oral cancer is attributable to these causes. Elsewhere, however, in parts of the world where women indulge in tobacco or tobacco products oral cancer in this sex is not uncommon.

Discussion

What can be learned from this overview of available data for oral cancer? For the dental practitioner, it is a reminder that, while uncommon, oral cancer in its various manifestations is not infrequent in Canada and may indeed be particularly prevalent in some areas. Although undoubtedly associated with tobacco use, particularly when this involves some aspect of smoking the product or chewing and retaining it in the mouth, it does seem likely that other factors are relevant and await fuller exploration.

Although Anderson was struck by the inverse relationship of the incidence of lip and oral cancer^{4,6} suggesting that lip cancer was common in rural areas whereas oral cancer is common in urban, the findings reported here in relation to the geographical distribution of oral and pharyngeal cancer in Quebec are rather against an urban association and although they do not rule out an association with French-Canadian ethnicity, they do suggest that there may be some practice in this area which is relevant to the aetiology of oral cancer. This could have implications not only for oral cancer in Quebec but for the rest of Canada as well and might well provide some insight into the aetiology of cancer in general. It may well be that some practitioners in Quebec have already documented some possible leads on aetiological factors and it would be most interesting to learn of them. In several instances, alert observations by practising physicians have been the clues which have led to the unravelling of an aetiological chain and the institution of preventive measures.

Variations in the incidence of oral cancer in different parts of the world have also become more significant for practitioners in the light of population immigrations and increased international

travel. Dentists should therefore be aware that the types and aetiological backgrounds of cancers they may encounter in patients from other lands may differ from those that are customary in native-born Canadians. For example, a high index of suspicion for lesions that might be pre-cancers or early cancers in individuals from India, or even from certain parts of the southeastern United States could well lead to earlier identification of an abnormality than would otherwise be the case. Thus knowledge of the epidemiology of cancer and its geographical variations can be very important to the practising dentist.

Summary

A general overview of the comparative epidemiology of oral cancer has been presented together with recent data from Canada. Although more frequent in many other parts of the world, oral cancer is still an important problem in Canada and has interesting provincial variations in incidence. Lip cancer is frequent in Newfoundland, but has a low mortality in that province. Cancer of the tongue and oral cancer seem to be most frequent in Quebec, particularly in one area of the Eastern Townships. The association of oral cancer with tobacco usage, especially chewing and smoking, has been confirmed in recent studies though it is likely that less oral cancer is attributable to smoking at older ages than younger and that additional associations remain to be uncovered.

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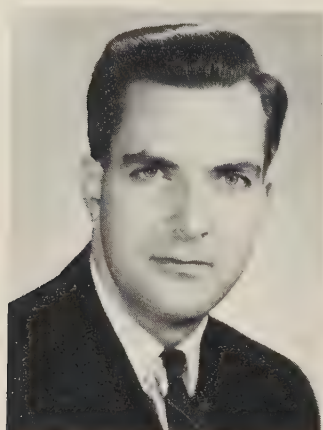
Reprint requests to Dr. Miller, director, Epidemiology Unit, National Cancer Institute of Canada, 25 Adelaide Street East, Toronto M5C 1Y2.

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Oral biopsies and cytological smears

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Lesions of the oral cavity must be positively identified so that specific therapy can be directed toward their elimination and cure. When the patient's history and examination fail to disclose the true nature of a lesion, a biopsy specimen should be taken without delay unless there is a specific contraindication to surgical procedures. It

is the duty of the dental profession to preserve oral health and inherent in this is the responsibility to take a biopsy whenever necessary.

The word biopsy (Greek: bios — life; opsis — view) means an examination of tissues cut from the living body for the purposes of diagnosis. The methods for securing such specimens fall into two broad categories: the excisional biopsy and the incisional biopsy.

Excisional biopsy — An excisional biopsy implies removal of the entire lesion when the biopsy procedure is performed. This method is used with lesions which appear benign on clinical examination, for not only is the entire lesion made available for examination, but complete excision is the only form of treatment for most of the conditions liable to be the subject of histological examination. However, excisional biopsy is usually reserved for smaller lesions (less than 1 cm in diameter) located in noncritical anatomical areas, and should include a small area of normal tissue at all its margins.

Incisional biopsy — Only part of the lesion is removed when an incisional biopsy is performed. It is usually employed to obtain a specimen from a lesion which may be difficult to excise in its entirety due to its size or location. An incisional biopsy should also be performed whenever there is a high degree of suspicion of malignancy. In some lesions which extend over a wide area, more than one biopsy may be required.

The biopsy site should be selected from the most representative area in order to show complete tissue changes as they extend into normal tissue at the base or margin of the lesion. Necrotic tissue should be avoided as it is of no value in diagnosis. A biopsy will provide better sections for study if taken from the periphery of a lesion as close to normal tissue as possible. It is also better to take a deep narrow biopsy rather than a broad shallow one as superficial changes may be quite different than those deeper in the tissue. An invading carcinoma may be missed by a shallow biopsy which shows only the superficial changes. Care must be taken when dealing with very vascular lesions and the dentist must be alert to the possibility of provoking a sudden haemorrhagic emergency which is better handled in a hospital operating room rather than in the private office.

Although most incisional biopsies are performed with scalpel and scissors, modified procedures have been developed.

With a punch biopsy, special punch forceps are used to obtain a small portion of the lesion by biting or punching out a piece of tissue. This procedure offers no real advantage; in fact many punch specimens are often bruised or damaged.

A needle biopsy with a Silverman needle, can be useful in deep-seated lesions such as neoplasms of the salivary glands, masses in the neck or soft tissue tumours in bone. It is possible by means of this needle to remove a strip of intact tissue 1.5 mm wide x 1.5 cm long which can be sectioned and studied in exactly the same fashion as an ordinary surgical biopsy. This method is certainly superior to needle aspiration biopsy which is often used for similar lesions. Needle aspiration is unsatisfactory since it furnishes only small detached clusters of cells for diagnostic purposes.

Aspiration biopsy can be utilized with lesions which contain fluid such as cysts. The fluid may be analyzed for evidence of cells but, of course, the result does not give a definitive diagnosis.

Indications for biopsy

A biopsy should be considered when a patient presents with any of the following lesions:

1. An ulcer that persists for two or three weeks without evidence of healing.
2. Definite, persistent hyperkeratotic changes in surface tissues.
3. Any persistent tumescence, either visible or palpable beneath relatively normal tissues.
4. Inflammatory changes that persist for long periods; bone lesions not specifically identified by clinical and radiographic findings.

Armamentaria

The following are basic requirements for performing a biopsy:

1. Removal of soft tissue specimens requires
 - (a) local anaesthetic equipment
 - (b) sharp scalpel and scissors
 - (c) fine tissue forceps
 - (d) haemostat forceps
 - (e) needle holder
 - (f) gauze sponges
 - (g) needle and sutures
2. Removal of hard tissue requires the addition of
 - (a) periosteal elevator
 - (b) bone chisel and mallet
 - (c) bone drills
 - (d) curettes
3. Aspiration of specimen material
 - (a) 10 cc syringe
 - (b) 18 gauge needle.

Method

The purpose of a biopsy procedure is to provide a representative section of tissue in as close to the natural state as possible so that it may be studied microscopically. Therefore the technique for obtaining such tissue must be careful and precise in order to preserve cellular detail for an accurate histological interpretation. Sharp, cold scalpel excision with minimal crushing and manipulation is the method of choice. Tearing and mutilation must be avoided at all costs. Tissue changes arising from application of antiseptic and topical anaesthetic solutions should also be avoided. Therefore, when a specimen is secured under local anaesthesia, the local anaesthetic solution must not be injected directly into the site to be biopsied as this distorts the tissues. Likewise, the cautery should never be used for securing a biopsy as this makes histological examination more difficult. Bleeding after the tissue has been excised may be controlled with a cautery, however.

When bleeding has been arrested by pressure, cautery or with a suture, the specimen is immediately immersed in a fixing solution such as formalin contained in a leakproof receptacle that can be securely labelled with the name of the patient, the date of the biopsy and the dentist's name. This is then forwarded to a pathologist with an accompanying form identifying the tissue and providing an adequate history and clinical description of the lesion. The exact location and gross clinical features may be described by the aid of diagrams.

Complications

The spreading of tumour cells along lymphatic and vascular channels by biopsy is always a possibility and gross manipulation of a tumour may increase the number of cells released. However, the risk of inducing haematogenous or lymphatic dissemination from a malignant lesion during a biopsy is secondary to establishing a diagnosis so that correct treatment can be instituted. One should also remember that manipulation of a malignant tumour by any means can produce seeding and the act of mastication, the presence of food within the mouth, as well as movement of tissues of the oral cavity during speech and swallowing are ever-present factors that may cause spread. Other dangers of biopsy are haemorrhage, infection and failure of the tissue to heal.

It is particularly important to ascertain the presence of lymphadenopathy in the neck prior to the biopsy procedure. Following a biopsy, lymphadenitis sometimes develops in regional nodes. The enlargement of these nodes as a result of inflammation may not be easy to differentiate from metastatic spread of tumour.

Oral exfoliative cytology

During recent years exfoliative cytology has been advocated as a reliable screening test for the detection of oral cancer, primarily because of the very effective results achieved in the early detection of cervical and uterine malignant lesions by means of this technique. Cells are scraped from the surface of the lesion within the oral cavity, spread upon a slide, fixed, stained and examined microscopically. The technique is designed simply to demonstrate cellular changes but in no way is it able to give a complete histological picture of what is occurring. It has not proved to be an accurate test in the detection of oral cancer.

Folsom et al,¹ in their study of 6,879 cases of oral lesions, found a false negative rate of 31 per cent when cytological examination of 148 malignant lesions, as diagnosed by biopsy, was performed.

Dabelsteen et al² reported on a series of 289 cases of oral leucoplakia examined by means of exfoliative cytology. Eighty-three of these lesions were biopsied because of their clinical features. Epithelial atypia was found in 16 cases after biopsy but exfoliative cytology detected atypia in only six. Thus, exfoliative cytology was unreliable in detecting these changes in 10 out of 16 cases — a false negative rate of 62 per cent.

Shklar et al,³ who examined 2,052 oral lesions by exfoliative cytology and biopsy, reported a 14.6

per cent false negative detection rate with exfoliative cytology in the 82 cases of malignant lesions disclosed by biopsy. There were also 18 cases of false positives on cytological examination, as well as 21 cases of dyskeratosis as diagnosed by biopsy which were all negative by cytology.

These three studies reflect the unreliability of oral exfoliative cytology in the detection of oral cancer.

Conclusion

The information obtained from a biopsy not only discloses the type of tissue of which the lesion is composed but also gives valuable information concerning special characteristics of cells in the lesion, particularly tumour cells. Although oral exfoliative cytology techniques can be helpful in the diagnosis of many benign conditions, they are unreliable in detecting malignant lesions and can at best only be used as an adjunct to biopsy. Cytological smears can yield some information, but a surgical specimen is imperative for final diagnosis.

If a lesion is diagnosed as malignant it is the responsibility of the dentist who performed the biopsy to see that the patient is examined and followed by the appropriate therapist without undue delay. It may even be necessary on occasion to accompany the patient when such an appointment is made.

Lesions that are termed benign on pathological examination should be subjected to continuing periodic scrutiny for it is the clinical course of the disease and not the pathologist's report that determines ultimate prognosis. Further biopsy may be indicated if healing is not complete or if suspicious signs persist.

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Reprint requests to Dr. Bentley, Montreal General Hospital Dental Clinic, 1650 Cedar Ave., Montreal H3G 1A4.

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Treatment and survival in oral cancer

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In this paper an attempt will be made to outline the principles of treatment of cancer of the mouth by surgical or radiotherapeutic means, considering the advantages and disadvantages of each technique. Secondly, the results of treating oral cancer in Saskatchewan from 1932 through 1966 will be given and compared with the results as quoted in the *Cancer Prognosis Manuals* published by the

American Cancer Society.^{1,2} During this period a total of 50,233 patients with malignant disease were registered with the two cancer clinics in Saskatchewan. Of these, 4,003 patients had oral cancer, that is 8.0 per cent.

Treatment aims

The primary aim in treating cancer is to cure the patient. This can be accomplished by excising the entire cancer or destroying it by radiotherapy. The second aim is to maintain or restore sufficient function to enable the patient to live a relatively normal life. Finally, an acceptable cosmetic result should be achieved if at all possible. However, it is better to have permanent recovery with some loss of function than to have a good cosmetic result followed by an early recurrence.

Choice of treatment

Sturdy,³ in analyzing 800 consecutive cases of oral cancer, concluded that "survival is equally as good whether the patient is treated surgically or by radiotherapy, provided the treatment is radical and well done." These methods can be used separately or in combination. The choice of modality is dependent on the following factors:

1. The judgment and experience of the specialist.
2. The type of tumour.
3. The location of the tumour.
4. The presence or absence of bone invasion.
5. The presence or absence of regional lymph node metastases.

6. The age and general condition of the patient.
7. The ultimate functional result.
8. The ultimate cosmetic result.
9. The convenience of the treatment for the patient.
10. The cost of the treatment.

Surgical treatment — For surgical treatment to be successful all of the cancer with a presumed margin of normal tissue around it must be removed. Any compromise of this basic principle is likely to result in failure. Our views on surgical treatment of oral cancer are as follows. Surgery is always the accepted method of dealing with operable metastatic nodes. It is the choice of treatment for cancers of the gingival mucosa which have invaded bone or have metastasized to the regional lymph nodes. It is frequently the treatment of choice for lesions involving the palate where it is difficult to achieve an adequate dose of radiation without undesirable side effects. It can be used to interrupt nerve pathways for the relief of pain in advanced cancers and it is used to reconstruct parts that have been destroyed by the malignancy or by the treatment for the malignancy. Surgery, however, requires hospitalization of the patient with consequent loss of time from his work, costly hospital charges and frequently the necessity for reconstructive procedures. Sometimes, too, the surgical procedure necessary to attempt a cure must be so radical that an elderly patient could not tolerate it, or there would be such a great loss of function that the maintenance of life would be difficult if not impossible.

Radiotherapeutic treatment — This type of treatment, too, must be radical. The ionizing radiation must be delivered to the entire cancer and to an adequate amount of normal tissue surrounding it. The tumour must be one that is capable of being destroyed by radiation. The dose of radiation must be adequate, it must be homogeneously distributed over the entire site of the tumour and it must not produce a high risk of subsequent necrosis of surrounding structures.

Radiation can be given in a variety of ways. It can be delivered as external radiation whereby x-rays or gamma rays or electrons are directed from a machine through the air and often the skin, bone and other structures to reach the tumour site. Thus structures not affected by the cancer may receive as much or more radiation than does the tumour. In certain cases this is inevitable but the radiation reactions of the skin and uninvolved mucosa are an unpleasant side effect. This type of treatment is usually given daily over a protracted

period of time, three, four, five or even as long as six weeks. It, can, however, be given on an outpatient basis.

Radiation can be delivered by the surface application of radioactive sources in moulds that fit over the affected site. An example of this is a single plane mould containing radioactive sources constructed to fit over a lesion involving an alveolar ridge. Another example is a double mould, one inside and one outside a lip, so that the lip with its lesion is sandwiched between two layers of radioactive sources. Patients with such moulds should be hospitalized for the safe custody of the radioactive sources and to ensure that the moulds are "worn" the proper number of hours.

Radioactive sources in the form of seeds, grains or needles can be inserted into the lip, tongue or other structures. This can be a single plane, double plane, or volume implant. Radioactive grains or seeds can be left in the part permanently. They can be inserted under local anaesthesia, on an outpatient basis, with the patient returning home and resuming his occupation immediately. Seeds or grains are most suitable for relatively small lesions. When a larger area or volume is to be implanted radioactive needles are used. These usually have to be inserted under general anaesthesia, the patient must be hospitalized, and the needles removed after the optimum dose of radiation has been achieved.

Invariably, radiation reactions follow the use of any of the methods. The reactions commence a week or 10 days after an implant or application of a mould, or they begin to develop two-thirds the way through a course of external radiation. In skin, an erythema develops which may progress to a dry or moist epithelitis and lead eventually to epilation, late scarring, atrophy and telangiectasia. The degree to which any of these will occur depends upon the dose received by the skin. When the mucosa is radiated an erythema develops. This is followed by the development of a white membrane which, if shed, leaves an intensely reddened hyperaemic area. Although some minor scarring, atrophy, dryness and telangiectasia may result, it is often surprising how well the mucosa recovers. Frequently, when an oral cancer is radiated, adjacent bone receives a high dose of the ionizing radiation. Osteo-radionecrosis may result but it occurs only rarely unless the tumour has destroyed the bone or if secondary infection develops in the bone. This infection is most apt to occur if infected teeth have not been previously removed or if general oral hygiene is not well maintained before, during and after the treatment. It can develop from months to years after the completion of a successful course of radiotherapy.

Occasionally a course of external radiation is combined with an interstitial implant of radioactive sources. This enables the radiotherapist to build up or achieve a high dose directly to the tumour without eliciting an undue radiation reaction from the surrounding normal tissue. It is most useful in extensive lesions of the tongue or retromolar trigone.

Combined radiotherapy and surgical treatment — These two treatment modalities can be combined in several ways in the management of patients with intra-oral cancers. The commonest way in which the two are used is where the primary lesion is treated by a radiotherapeutic technique and the metastatic lymph nodes are removed surgically. Sometimes pre-operative radiation is given to reduce the bulk of the tumour and the surgeon is then able to excise the remnants without creating an unacceptable functional result. Sometimes, too, a course of postoperative radiotherapy is given when there is a question about the completeness of the excision. This should be avoided whenever possible since the tissues, partially deprived of their blood supply or badly scarred, do not tolerate a full course of radiotherapy well.

Role of the Dentist

Besides his role in diagnosing oral cancer, the dentist should be an integral member of the team caring for the patient.⁴ He should be asked to see that the best possible health of the oral cavity is obtained before treatment is instituted. All teeth with advanced caries, advanced chronic periodontitis or periapical infection should be extracted. Teeth which will be exposed to the full dose of radiation should likewise be extracted. All questionable teeth, root fragments and infection should be removed. Chronic periodontitis must be treated.

Dental extractions must precede radiation therapy which can be started 7 to 10 days after the extraction. This is true for surgery as well.

If surgical resection is contemplated that will subsequently necessitate the construction of maxillo-facial prostheses, the dentist should be consulted pre-operatively so that prosthetic aspects may be included in the considerations, and so that pre-operative casts of the mouth may be obtained.

The dentist may be called upon to construct suitable moulds, but in most modern and certainly in larger radiation centres, a mould room technician is available for this purpose.

The dentist, on occasion, may be called upon to do nerve blocks and nerve destruction as a palliative procedure in uncontrolled painful disease.

Distribution of oral squamous cell carcinoma in Saskatchewan, 1932-1936 Table 1

Site	Stage				Previously treated or unstaged	Total
	1	2	3	4		
Tongue	77	26	46	20	11	180
Floor of mouth	33	11	28	9	6	87
Gingiva	42	12	40	4	13	111
Buccal mucosa	41	23	35	6	12	117
Palate	23	6	12	3	4	48
Lip	2,983	64	123	16	228	3,414
Total	3,199	142	284	58	274	3,957
Per cent	80.2	3.6	7.2	1.5	6.9	100

Staging

During the period under review, oral cancer in Saskatchewan was staged as follows:

Stage 1 — Growth less than 3 cm. in greatest diameter. No fixity to deep structures. No interference with mobility of organ.

Stage 2 — Primary lesion as in Stage 1. Mobile secondary nodes confined to the immediate drainage area.

Stage 3 — Growth greater than 3 cm. in greatest diameter or involvement of deeper structures or impairment of mobility of the organ. Mobile nodes may be present, confined to the immediate drainage areas.

Stage 4 — Fixed secondary nodes or nodes in more than one drainage area or distant metastases.

The TNM method of staging,⁵ which is now used, is a better method of describing the extent of the disease.

Table 1 gives the number of patients in each stage, for the different sites, in Saskatchewan. Patients with histological types other than squamous cell carcinoma are excluded from this table.

Treatment

Lip — Cancer of the lip was mainly treated by radiotherapy using either a radioactive gold seed or a single plane radium implant. More extensive lesions were treated by external radiation. We preferred these methods as they were easy to perform and the patient could frequently be treated and allowed to return home the same day to continue with his occupation. The cosmetic result was quite acceptable and the results were

Site	Saskatchewan 1932-1966		Cancer Prognosis Manual 1958-1964	
	No. of patients	Absolute 5 year survival	No. of patients	Absolute 5 year survival
Tongue	186	32.8%	5,112	26.9%
Floor of mouth	87	29.9%	1,471	33.7%
Gingiva	111	36.9%	1,165	33.9%
Buccal mucosa	117	37.6%	890	43.5%
Palate	48	43.7%	270	24.4%
Lip	3,414	82.5%	5,040	67.7%

*Absolute survival rate is the percentage of patients that survive for a given time irrespective of whether or not they receive treatment.

good. Surgery was confined to the treatment of metastatic nodes, local recurrence or, occasionally, for excision of post-radiation necrosis (Table 1).

Tongue — Radiotherapy was the primary treatment in the majority of the Saskatchewan patients. This was in the form of a single-plane implant of radioactive sources for early (Stage 1) lesions of the margin of the tongue. A two-plane or volume implant was used for more extensive lesions. A few patients, mainly those with lesions involving the posterior third of the tongue, were treated by external beam directed irradiation.

Surgery was employed for patients who had residual disease. It was always the treatment of choice for removal of metastatic nodes. A "commando" procedure was carried out in a few patients where the malignancy had extended to the floor of the mouth or adjoining alveolar process, particularly if operable lymph node metastases were present. It was also used occasionally for very early lesions where a wide local excision was indicated.

Floor of mouth — The Saskatchewan patients were treated by a volume radium implant through the tongue and floor of the mouth when this method was suitable. However, more than half the patients had extensive lesions involving the alveolar process or the mandible or had metastatic nodes. These patients received radical surgery by means of a "commando" procedure unless the condition was inoperable. Some patients were treated for palliation only. Three cases were so advanced that no treatment was given.

Gingiva — Well over one-half of the Saskatchewan patients were treated by radiotherapy. This was in the form of a radium mould in a few patients. Several had a two-plane radium implant with one plane of radioactive sources in the tongue and a second plane in the substance of the cheek — a tongue-ptyergoid implant. By this, the lesion was sandwiched between the two planes. Others were treated by means of external radiation.

Surgical treatment was the choice for patients with definite bone involvement or operable metastatic nodes. Those who developed subsequent metastatic nodes after successful control of the primary by radiation had a radical block dissection.

Buccal mucosa — Patients with squamous cell carcinoma of the mucosa of the cheek were usually treated by wide surgical excision or a radioactive gold seed implant for small lesions. Larger lesions were treated by means of a radioactive needle implant. A few patients were treated with external radiation.

Palate — Treatment of patients with squamous cell carcinoma involving the palate was by wide surgical excision when feasible including, if necessary, some of the bony palate. Patients with advanced disease received external radiation. A very few patients with very early disease had a radioactive gold grain implant.

Table 2 gives the absolute five year survival rate for patients with squamous cell carcinoma by sites. The Saskatchewan results are compared with those given in the 1966 edition of the *Cancer Prognosis Manual*.² The survival rates are identical. The low number of patients in the Saskatchewan series (for

sites other than lip) make the small difference in the five year survival of no statistical significance. In cancer of the lip, the better survival rate in the Saskatchewan series probably arises from the fact that there were more patients with early disease. Stages 1 and 3, Saskatchewan series, correspond roughly with Stages 1 and 2 as reported in the Cancer Prognosis Manual. Of 3,106 Saskatchewan Stage 1 and 3 patients, 83 per cent survived five years whereas 85.2 per cent of 2,720 Stage 1 and 2 patients, as reported in the *Cancer Prognosis Manual*, survived five years.

Miscellaneous malignancies — By far the commonest oral malignancy is squamous cell carcinoma. Other histological types are found but they are rare. Only 46 such patients were recorded in Saskatchewan from 1932 through 1966. They were a heterogenous group. The majority arose from salivary gland tissue of the cheek, palate or tongue. There were 25 such cases. Five patients had a malignant lymphoma arising most often from lymphoid tissue of the dorsum of the tongue. There were three cases each of rhabdomyosarcoma (tongue) and lymphoepithelioma. Two cases were histologically described as "malignant epulis" — probably squamous cell carcinomata, and there was one case each of leiomyosarcoma, liposarcoma, neurogenic sarcoma, malignant teratoma, and adamantinoma (upper alveolar ridge). Three cases were described as malignant tumour-type unspecified — (one healed spontaneously and the patient is alive and well nine years later).

With the exception of malignant lymphoma, the main treatment in this group of patients was wide surgical excision. Twenty-one of the patients, 45.6 per cent, survived five years.

Summary

This paper has outlined some of the factors that determine the choice of treatment for patients with oral cancers. The results of treating 4,003 oral cancer patients in Saskatchewan, from 1932 through 1966, is also described. These have been compared with results published by the American Cancer Society in the Cancer Prognosis Manual of 1966.

Reprint requests to Dr. Burkell, Saskatoon Cancer Clinic, University Hospital, Saskatoon, Sask. S7N 0W8.

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White lesions of the oral mucosa

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A large number of oral diseases present clinically as white lesions of the oral mucosa. Skin diseases, oral infections and epithelial dysplasias account for most of them. Lichen planus, candidosis, hyperkeratosis and leucoplakia are the specific examples that are most likely to be encountered fairly frequently by the dentist in private practice. It is essential that he be familiar with at least these commonly occurring white lesions if he is to perform adequately as a diagnostician.

Lichen planus

In 1969, lichen planus celebrated its centenary as a recognized skin disease. It affects adults, particularly women, and the characteristic skin lesion is a raised, shiny, flat-topped, round lesion, 1 mm in diameter, reddish at first but becoming violet or brownish as the lesion subsides. Individual lesions may coalesce to produce scaly patches several centimetres in diameter. Fine white lines may radiate across or from the periphery of the lesions; these are known as striae of Wickham. The eruptions appear most often on the skin over the wrists, elbows, ankles or knees and they may be itchy.

About half of the patients have oral lesions, and in about 25 per cent of the cases these appear before or without skin lesions. They are most common on the buccal mucosa and the tongue, and the patient often describes them as a "roughening" of the oral mucous membrane. Oral lesions, in contrast to skin lesions, do not itch and, except for the uncommon atrophic and bullous forms, are asymptomatic. The lesions are characterized by slightly raised, whitish or translucent radiating or criss-crossing lines on the oral mucous membrane. In the less common atrophic type of lichen planus, large shallow ulcerations with a necrotic surface surrounded by radiating lines are seen. On the alveolar mucosa, the condition may be described as a desquamative stomatitis. Pain symptoms may be associated with these lesions due to exposure of nerves and secondary infection. The same applies to the rare bullous type of lichen planus in which the blisters rupture to form painful ulcers.

The aetiology of lichen planus is unknown. Most patients will be found to be under abnormal stress. Careful questioning may be necessary to bring out this information as the patient may not be aware of it. It is important to investigate this aspect of the disease because remissions have occurred in some cases where stressful situations were uncovered and corrected.

The mechanism by which psychosomatic factors bring about the eruptions of lichen planus is unknown. The principal defect is a degeneration of the basal cells in the epithelium. Black and Wilson-Jones¹ showed that melanocytes are also involved and are probably destroyed by the same process that affects the lower epidermal cells. Further investigations should be done since melanocytes are indirectly responsive to some of the hormones associated with stress. Liquefaction degeneration of the basal cells may be secondary to alterations in the melanocytes. According to Sarany and Gaylarde,² changes in the basal cells are independent of the inflammatory infiltrate and disruption of the basement membrane which occur in active lichen planus lesions. These alterations are regarded as secondary changes. An unusual arrangement of capillaries at the edge of the lesions has also been noted and Glickman et al³ have suggested that the violaceous hue of the lichen planus papule is caused by capillary derangement. Wickham's striae are caused by focal hyperkeratosis and probably indicate increased lichen planus activity at the periphery of lesions. The hyperkeratosis may be brought about by nutritional changes affecting the keratinizing upper epithelial cells as a result of the beginning of degeneration in the basal cell layer.

Investigations of a possible infectious aetiology and the role of auto-immune mechanisms are also being conducted in the search for the cause of lichen planus.

Treatment with drugs is usually not necessary once the disease process has been explained to the patient. Triamcinolone acetonide, a corticosteroid, is often useful in seeing patients through periods of extreme lichen planus activity. The discovery of abnormal degrees of stress and its reduction may also lead to remissions of the disease.

Oral candidosis

Infection with *Candida albicans* is very common in the oral cavity. The organism can be cultured from the saliva of about half the population, and it occurs in the yeast form in carriers. Many consider the fungus pathogenic only in the mycelial form —

composed of long branching, tube-like structures divided into segments or hyphae, as opposed to the round or ovoid yeast-like form.

The disease is important because of its increasing incidence and the fact that it can produce white lesions that must be differentiated from precancerous or cancerous lesions. The following classification was put forward by Lehner⁴ in 1962:

1. Acute pseudomembranous candidosis (thrush)
2. Acute atrophic candidosis
3. Chronic hyperplastic candidosis
 - (a) Chronic oral candidosis (*Candida leucoplakia*)
 - (b) Endocrine candidosis syndrome
 - (c) Chronic localized mucocutaneous candidosis
 - (d) Chronic diffuse candidosis
4. Chronic atrophic candidosis (denture-sore mouth and angular cheilitis).

With the exception of chronic oral candidosis (*Candida leucoplakia*), which will be discussed under hyperkeratotic lesions, the acute forms are most likely to be encountered.

Acute pseudomembranous candidosis is the commonest form of the disease. In infants and in elderly patients it is often referred to as "thrush." It is characterized clinically by the appearance of curd-like pseudomembranes on the oral mucosa. These may be isolated, 1 mm diameter patches, surrounded by a red halo or they may be extremely large, confluent, white gelatinous masses. They are loosely attached to the epithelium by mycelia that penetrate between the epithelial cells. The mass can be detached fairly easily and may leave a slightly bleeding surface. This is a useful diagnostic test. *Candida albicans* can be cultured from saliva at this stage, and oral smears, taken from the lesions stained by the periodic acid-Schiff reaction, will almost invariably show mycelia.

An important part of patient management is examination for pre-disposing factors. If the outbreak of candidosis cannot be explained by the fact that the patient is an infant or that he is debilitated, then vitamin deficiencies, iron deficiency anaemia, diabetes and corticosteroid administration should be investigated.

Acute atrophic candidosis is a form of the disease which generally follows the pseudomembranous form and is characterized by shedding of the pseudomembrane, leaving an atrophic red painful mucosa. Remnants of pseudomembrane are usually also present. This is the only variety of oral candidosis in which the patient experiences pain.

Most lesions of oral candidosis can be brought under control by having the patient suck nystatin lozenges. The 500,000 unit tablets designed for oral administration in the treatment of candidosis of the intestine are the most convenient form to prescribe. However, the patient must be cautioned

to suck the tablets and to hold them in contact with the oral lesions for as long as possible; otherwise, they will be ineffective for treating oral lesions. Nystatin is not absorbed by the gut and depends upon local contact with the mycelia of *Candida albicans* to be effective.

Endocrine candidosis and mucocutaneous candidosis are much more difficult to eliminate than are the acute forms and require prolonged therapy, usually by amphotericin B. Successful treatment also depends upon the eradication of predisposing factors.

Hyperkeratotic lesions

White lesions of the oral mucous membrane associated with hyperkeratosis are among the most difficult lesions for the dentist to diagnose and manage. It is comforting that perhaps up to 90 per cent are benign and represent a relatively simple reaction by oral epithelium to an external irritant. The response is keratin production in an area where keratin is not normally produced or an excessive amount of keratin in otherwise normally keratinized areas.

The causes of these histologically benign hyperkeratotic lesions are varied. Some are hereditary and congenital. For example, white sponge naevus is an autosomal dominant trait that may be present in a child at birth. By adolescence it may involve the entire oral mucous membrane which appears thick, folded and spongy with a peculiar opalescent hue. Other mucosal surfaces of the body may also be affected. The disease is benign and has only to be recognized and explained to the patient.

Most other histologically benign hyperkeratotic lesions are a direct result of external irritants such as the heat and chemical irritants associated with tobacco smoking, alcohol, the continuous use of hot or spicy foods, and rough objects such as natural or artificial teeth. If these causative agents are removed, most of the histologically benign hyperkeratoses will disappear.

The remaining 10 per cent of hyperkeratotic lesions of the oral mucous membrane present a much more serious problem for the dentist. Histologically, they exhibit varying degrees of epithelial dysplasia which blends subtly into carcinoma in situ.

Sprague⁵ has suggested that epithelial dysplasias be classified according to whether they display minimal, moderate or severe atypia. In the milder form, the atypical epithelial cell changes tend to be limited to the basal and deeper prickle cell layers. This is the type that is most likely to be covered by

thick layers of keratin which make exfoliative cytology and vital staining ineffective as diagnostic tools. Only biopsy will reveal these very early changes. Moderate atypia implies a slightly more advanced lesion with varying combinations of basal cell hyperplasia, loss of polarity of basal cells, variations in size, shape and staining reactions of the basal and deeper prickle cells, increased and abnormal mitoses, increased nuclear-cytoplasmic ratio of cells, and premature keratinization of individual cells in the deeper strata. There is a tendency for lack of surface keratinization, although parakeratin may be present. Biopsy is therefore still the best diagnostic tool. In severe dysplasia, the atypia extends from the top to the bottom of the epithelium and these lesions are best considered to be carcinomas in situ. They are seldom covered by layers of keratin, appear as red rather than white lesions, and because they reach the surface, are accessible to such diagnostic techniques as exfoliative cytology and vital staining. Adjacent areas of epithelium are often less severely affected and present hyperkeratotic surfaces. It is very important, therefore, that careful clinical observation of hyperkeratotic lesions be undertaken and tests for carcinomatous change should be concentrated on reddish or granular or speckled parts of the lesion.

Diagnostic accuracy can be greatly enhanced by the use of proper techniques. The use of a magnifying lens or loupe in conjunction with a pen flashlight to provide optimal illumination is of assistance in visual examination. Areas where atypical cells reach the surface can often be more easily visualized as areas for concentrated testing by the use of vital dyes.

A 1 per cent aqueous solution of toluidine blue has been used by Shedd et al⁶ with some success. It is based on the assumption that the greater concentration of nuclear protein in areas of carcinoma causes increased affinity for the dye and will clinically stain such areas a bluish colour compared to non-uptake by normal mucosa. Mucus is cleaned away with 1 per cent acetic acid; 1 per cent toluidine blue is then applied with a cotton applicator for 10 seconds. After rinsing the mouth with water, the site is decolorized with 1 per cent acetic acid. Areas that remain blue after decolorization are considered stain-positive. Unfortunately, some inflammatory tissue also picks up stain and this detracts from the usefulness of the test. It can, however, be used to select the best site for biopsy.

Pindborg et al⁷ have reported a malignant transformation in 4.4 per cent of oral leucoplakias. Roughly two-thirds of these carcinomas developed in areas of speckled leucoplakia, as opposed to common leucoplakia. Speckled leucoplakias are

areas of rough red mucosa containing scattered white patches. Jepsen and Winther⁸ observed that these areas had a very high incidence of secondary infection with *Candida albicans* in the mycelial form.

Biopsy is still the definitive test for all types of hyperkeratotic lesions in the oral cavity. The effectiveness of exfoliative cytology is limited by keratin production, but its accuracy when applied to velvety red or granular lesions is probably high. It can be a useful adjunct to biopsy if used intelligently.

Summary

The clinical and pathological characteristics of several common white lesions of the oral mucosa have been described. The role of the dentist in the diagnosis and management of these diseases has been discussed.

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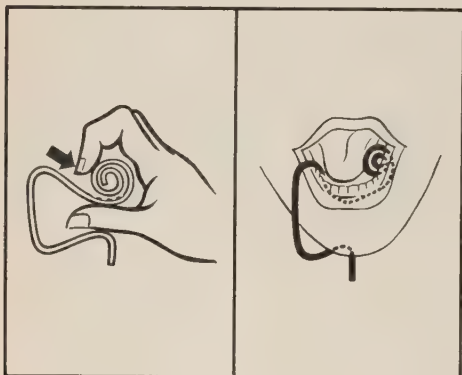
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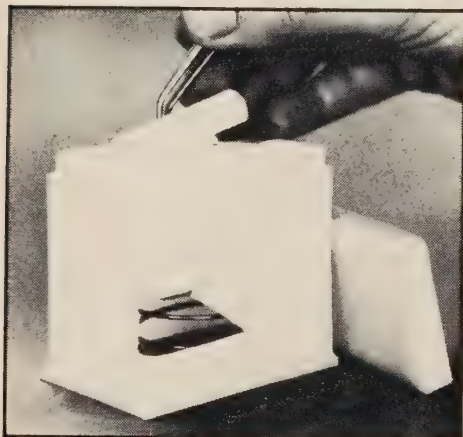
This is a unique Tongue-Holder and Saliva Ejector which can be formed at the chairside to suit the individual patient and the particular procedure. While the Hygoformic Saliva Ejector is mouldable, it is most convenient for the dentist and comfortable for the patient. Only soft plastic touches the tender tissue.

Hygoformic Saliva Ejectors are economical enough to be disposable after each use. Packed in bags of 100 + 2 adaptors for regular saliva ejector outlets. Adaptors for twin use and/or power-suction are available from WEIL.



NEW SPRING-LOADED COTTON ROLL DISPENSER

This handy spring-loaded, easily refillable Dispenser makes available a row of 1½" cotton rolls ready for single or multiple use from a fixed position. The small base, 2" x 3" x 2¾" high, adapts well to all tray set-ups. Unit capacity is greater than one 50 roll bundle, allowing a refill before completely empty. A snap-fit cover ensures dust free storage. These white dispensers are economical enough to have one at each chair or on each set-up. Available from WEIL.



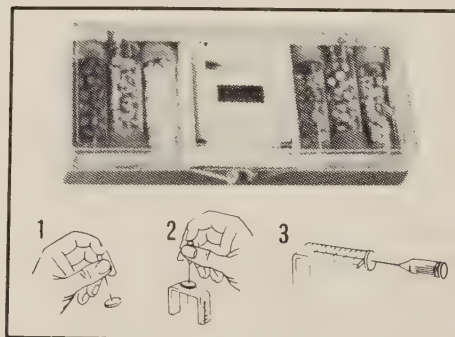
NEW WEDGE POSITIONER HOLDS WEDGES FIRMLY



The stainless Wedge Positioner clamps the wedges with a firm hold at a right angle so that they can be fitted into the narrowest spaces between cheek or tongue and teeth. The grip is so secure that they will not slide but can be placed with ease and precision.

The BARMAN WOODEN WEDGES are anatomically shaped for better and safer fillings. The side of the wedges are curved to correspond to the interdental spaces allowing for optimal pressure at the gingiva and for correct support of the matrix bands. Supplied in two sizes; small (uncoloured) and large (coloured), in boxes of 200 assorted sizes. Introductory kit of Barman Wedge Positioner + 1 box of Wedges, or Positioner and Wedges available separately — from WEIL.

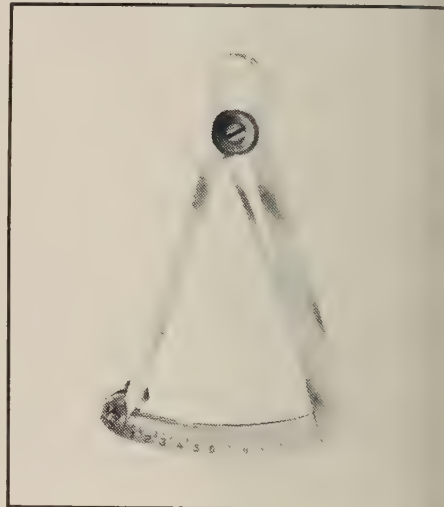
ROOT CANAL DISCS GIVES ACCURACY



The world's easiest measuring indicator is a radio opaque, heat-resistant disc which can be sterilized and re-used. They come in a kit containing 6 vials of differently coloured (white, yellow, red, green, blue and black) plastic discs and a uniquely designed measuring stand. On the cross bar of the U-shaped stand is a recessed hole, preventing damage to the tip of the endo-instrument onto which the plastic disc has been speared. On one side is a mm. scale with a grooved line allowing the instrument to be guided until the disc is placed at the required length. Available in a kit as illustrated, or 1 stand + 1 vial of Markers, from WEIL.

DEVICE MEASURES GOLD TO 1/10 mm

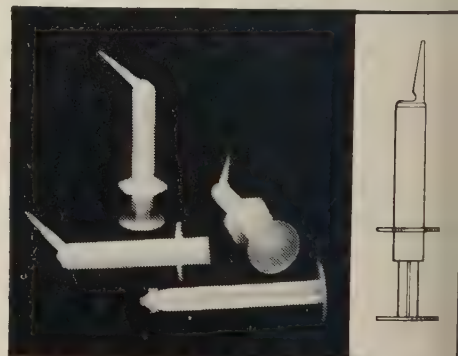
This precision-made, stainless-steel instrument allows gold thickness of Crowns and Inlays to be measured to as low as 1/10 mm. A clearly marked scale at the handle facilitates reading of these precise and unnoticed measurements in a visual manner. Available from WEIL.



DISPOSABLE SYRINGE WITH ADJUSTABLE TIP

These time saving syringes are supplied with straight nozzle, which can be used as such, or can be shaped for use at a 45° angle by following the simple instructions enclosed in each box of 50. The inside measurement of the tip is .8mm, so this fine flexible point gives good access into gingival pockets, root canals, etc. The complete syringe is less costly than the plastic nozzle which forms part of the usual metal syringe and it eliminates cleaning and cross contamination.

Made completely of plastic, these syringes are ideal for rubber-base, silicate material, surgical packs, acrylics, alginates, vaseline or even as endodontic syringes. Available from WEIL.



CLASSIFIED ADVERTISEMENTS

Formes close on 1st of month preceding month of issue.

Direct advertising copy to: Classified Advertising Dept., Canadian Dental Association, 234 St. George Street, Toronto 180, Ontario.

Remittance must accompany Classified ads.

CLASSIFIED ADVERTISING RATES:

Minimum (50 words or less)	\$10.00
Each additional word	.30
Service charge for C.D.A. Box No.	2.00
Display Classified (using variety of type faces, bold faces, borders etc.) per column inch	10.00

Replies to C.D.A. Box numbers should be addressed as follows:

C.D.A. Box
Advertising Department,
Canadian Dental Association,
234 St. George Street,
Toronto 180, Ontario.

Box numbers must appear on envelope. Names of box number advertisers cannot be revealed.

OFFICES AND PRACTICES FOR SALE AND FOR RENT

ALBERTA — Calgary. Modern air-conditioned, carpeted. Preventive dental practice for sale in an ideally located busy shopping centre. May be leased and/or financed. Sold as a going concern. Reply CDA Box No. 1285.

BRITISH COLUMBIA — Langley. For rent. Thriving, family practice in small, rapidly growing city in Fraser Valley, 25 miles east of Vancouver centre. Office in small, modern medical-dental building. Three large well lighted operatories; equipped if desired. Available in mid-summer 1974, preferably on long term basis. Reply CDA Box No. 1348.

BRITISH COLUMBIA — Nelson. Busy practice in West Kootenays, modern fully equipped and furnished two chair office, third room plumbed and wired. Lab, dark room etc. and private office. Great area for summer and winter recreation. Reply CDA Box No. 1359.

BRITISH COLUMBIA — Victoria. Unusual practice. Good Karma. Supported by Government funds, fees, 2 operatories, excellent equipment. Lots of time off, as busy as you want to be. Encouragement to take courses, interesting patients, opportunities for technique versatility. Send resume to: Dr. E. Kaellis, 1291 Gladstone Avenue, Victoria B.C. V8T 1G5.

BRITISH COLUMBIA — Vancouver. Deluxe two chair office with lab, dark room, washroom and nurse's office. Share waiting room 17' x 20' with family Physician. Former dentist had overflow practice. Few buildings across the street. Rent \$260 includes covered garage, heating and gas. Dentist pays electricity and phone bills only. Reply Dr. H. Dumont, 2185 West 4th Avenue, Vancouver 9, B.C. Phone 733-3010 day or night.

BRITISH COLUMBIA — Kamloops. Practice for sale. Large office, 1000 sq. ft., including waiting room, private office, dark room, lab and three operatories, one equipped. In residential area of fast expanding city of British Columbia's southern interior. Ideal for one or two dentists. Good area for both summer and winter sports. Reply CDA Box No. 1324.

BRITISH COLUMBIA — Vancouver. For Sale: Very active Dental Practice in fast growing area of Greater Vancouver. Presently supporting 3 dentists with 3 operatories modernly equipped. Owner must sell for health reasons. Apply CDA Box No. 1364.

BRITISH COLUMBIA — North Vancouver. Fully equipped, sit down, preventive practice. All equipment is two years old. The entire office carpeted, air-conditioned and very tastefully decorated. Both operatories piped with nitrous-oxide, stereo. Patient education room is fitted with built in slide screen, sink, projector etc. This practice is busy and growing rapidly. Ideal for recent graduate. Reply CDA Box No. 1365.

MANITOBA — Steinbach. For sale, high gross practice 30 minutes from Winnipeg. Presently manned by myself and one associate. Only office in town of 6500. Four operatories (3 Spaceline, 1 Emda). Dentist owned building 2 years old. Apply CDA Box No. 1367.

NOVA SCOTIA — Halifax. In beautiful Nova Scotia — Halifax by the sea. An established and still growing pedo practice (or switch to general practice, if you prefer). Relaxed group of 4 dentists in the building (owned equally by all four) and located near University, hospitals and other professional offices. Modern equipment — good staff including hygienists — preventive oriented cash practice.

Very easy terms — lease, buy or both — to someone who wants a good permanent career in Nova Scotia. Please write to: Dr. R. Epstein, 6088 Coburg Road, Halifax, Nova Scotia.

ONTARIO — London. For sale — buy well established family practice in rapidly expanding residential area of city. Enormous patient potential. Two operatories equipped for sit down dentistry, private office, dark room, waiting room. Recently redecorated. Available February 1974. Owner selling for family reasons. All enquiries treated confidentially. Reply CDA Box No. 1360.

ONTARIO — West End Toronto. Fully equipped and furnished dental office for rent in modern medical clinic building, consisting of 4 operatories, nurse/receptionist station, private office and large waiting room. Central unit for gas analgesia fitted. Building fully air-conditioned, janitorial services provided, ample parking. Reply CDA Box No. 1227.

ONTARIO — Burlington. General practice, fully-equipped for intravenous and inhalation anaesthesia. Set up for left-handed operator, office includes two fully equipped operatories and a potential third. For more information please contact Dr. J.J. Corrigan, 761 Brant St., Burlington, Ontario. 1-416-634-8039.

ONTARIO — Essex. Practice for sale or Associate Wanted. Excellent opportunity. Office and house combination. New modern dental office, 2 operatories for four-handed dentistry, laboratory, dark room, 3 dental assistants. Excellent income and rate of collection. 15 miles from Windsor, Ontario. Reply CDA Box No. 1346.

ONTARIO. Established practice available. Large enough for two practitioners. Pleasant community, within 25 miles of large centre in Southwestern Ontario. Apply Dr. A.C. Sylvestre, 1490 Cabana Rd. W. Windsor, Ontario N9G 1C4.

ONTARIO. Cabinet, 25 minutes d'un grand centre du sud-ouest. Pour 2 dentistes. Localité agréable. Dr. A.C. Sylvestre, 1490 Cabana Road W., Windsor, Ontario N9G 1C4.

ONTARIO — Ottawa. Dental suite for rent. 700 square feet. 21' x 34'. Air-conditioned, reasonable rent, already 3 dentists located in small 4-office building situated in Ottawa South. Apply Dr. G. Bertrand, 1207 Evans Blvd., Ottawa, Ontario K1H 7T6 or call 613-731-5700.

ONTARIO — Southampton. Wanted — dentist to take over a well established practice in a prosperous growing town on the shores of Lake Huron offering excellent year round recreational facilities. Modern office set up for two operatories in a building shared by a physician. Hospital privileges available. Practice qualifies for assistance (grant or guaranteed income) by the Ontario Department of Health. Rewarding opportunity for someone looking for a smaller attractive community. Write to: Dr. J.J. Ellis, 24 Albert St., Southampton, Ontario, or phone Area Code 519-797-3592.

ONTARIO — Essex. Dental office space in new building. Built to your specifications. For additional information see the Opportunity Book at the University of Toronto or write to — Brown-Barnett Insurance Agency, Box 1269, Essex, Ontario.

ONTARIO — Hamner. 16 miles from Sudbury, prosperous practice, just take over the remaining 1½ years MDS Lease/equipment/over and offer the "good will". 2½ years established practice in General Dentistry, located in modern Medical Centre with 4 Physicians. Area served 18,000. Approximately 75% of served population covered by basic dental insurance. Income limited by desire to work only.

Two operatories equipped for four handed dentistry, COX, Ritter-X Ray etc., sterilizing island, lab, dark room, reception area, private room, waiting room. Low rent. Available on June 24, 1974. Please call evenings 705-969-8724 or write Dr. A.J. Palencar, Box 519, Hamner, Ontario.

ONTARIO — Ottawa. Space available for two operatories. Lab, waiting room and business area to be shared with two other dentists. Centrally located downtown in modern air-conditioned medico-dental building with full janitorial services provided. Apply to Dr. Jeff S. Barbalat, 225 Metcalfe Street, (Kenson Bldg.) Suite 410, Ottawa, Ontario.

ONTARIO — Kingston. Practice for sale. Available the end of June 1974. Ideally located in modern professional building, excellent clientele, established 8 years. Two fully equipped operatories for four-handed dentistry; an excellent opportunity for a new graduate. Present owner returning to postgraduate studies. Reply CDA Box No. 1368.

ONTARIO — Windsor. For sale. Attractive modern 4 bedroom home with 900 sq. feet. (5 room) office attached; price \$84,000. Reply to CDA Box No. 1369.

ONTARIO — Willowdale. Oral surgeon wanted to rent a completely equipped 2-op dental office in the mornings. All services and staff provided. High density area. Recovery room facilities possible. Reply CDA Box No. 1332.

QUEBEC — Beaconsfield. Dental office for sale. Available July 1974. Returning to school. Excellent family practice. Low overhead. Excellent income. Reply CDA Box No. 1370.

QUEBEC — Dorval. Fully equipped dental office available, located in a thriving shopping centre. Consists of waiting room, lab, private office, and operating room. Patient records available. Reply CDA Box No. 1375.

INTERNSHIP PROGRAMME CHILDREN'S CENTRE

HEALTH SCIENCES CENTRE, WINNIPEG, MANITOBA

(formerly the Children's Hospital of Winnipeg)

Applications are invited for a one year Internship Programme in Paediatric Dentistry in the Children's Centre, Health Sciences Centre, affiliated with the University of Manitoba, Winnipeg, Manitoba, Canada. Experience will be afforded the successful candidates in all phases of Paediatric Dentistry, including a one month's rotation through general anaesthesia. Seminar courses will be offered in Paediatric Dentistry and opportunities are available for other courses in the hospital and/or the University of Manitoba.

Applications should be submitted to:

Dr. D.F. Duperon, D.D.S., M.Sc.
Chief of Dental Staff
Children's Centre
c/o The Faculty of Dentistry
University of Manitoba
Winnipeg, Manitoba, Canada
R3E 0W3

DENTISTS REQUIRED

Excellent opportunity for dentists who would like to participate in a children's dental care program.

The program features the latest concepts in dental health education, prevention and treatment. The team approach utilizing expanded function dental hygienists is the most advanced in use in North America. Services are provided in new multi-chair mobile and fixed clinics equipped for sit-down four-handed dentistry. The Mobile Clinic staffs commute an average of 35 miles from an urban centre. Five clinics are presently in operation. Licence to practice in P.E.I. is necessary.

Salary \$17,500 — \$26,100

Starting salary \$17,500 to \$24,380 depending on experience and qualifications.

Apply: Director, Division of Dental Public Health
Department of Health, P.O. Box 3000
Charlottetown, P.E.I., C1A 7P1

OTTAWA SOCIETY FOR PREVENTION OF DENTAL DISEASE

presents

"HEALTH OF THE PROFESSIONAL FAMILY"

*A seminar on healthful living and disease prevention
in terms of nutrition, personal habits and AEROBICS
— a fitness program for men and women.*

Speakers: Emanuel Cheraskin, M.D., D.M.D.
Kenneth H. Cooper, M.D., M.P.H.

Date: Fri. April 26 & Sat. April 27, 1974

Place: Chateau Laurier, Ottawa

Fee: \$90.00 per doctor (includes lunch)
Wives, auxiliaries, older children FREE
(except lunch) if registering with doctor.

Registration

& Inquiries: Dr. M. Norman
170 Metcalfe
Ottawa, Ontario

OPPORTUNITIES AVAILABLE

ALBERTA — Drumheller. Graduate Dental Hygienists required immediately for Health Unit duties in central Alberta. Emphasis on prevention and dental education. Very attractive salary and other benefits. Apply to Dr. A. Thomson, Drumheller Health Unit, Drumheller, Alberta.

BRITISH COLUMBIA — Golden. One or two dentists urgently needed for progressive British Columbia town. Drawing area of 6000, 7000 patients. Office space available and town council willing to discuss financial aid if needed. Town has all amenities. Unsurpassed recreational facilities and located on Trans-Canada highway. Close to Banff and Jasper National Parks and less than three hour drive from Calgary. Write to: Municipal Clerk-Treasurer, Town of Golden, Box 350, Golden, B.C. or phone collect 604-344-2271.

BRITISH COLUMBIA — Vancouver. University of British Columbia, Faculty of Dentistry, Department of Oral Medicine. Applications are invited for the full-time position of Instructor II, to teach Oral diagnosis in the Department of Oral Medicine. The post is suitable for a recent graduate at a minimum salary of \$12,000 per annum. Applicants must be registered or registrable in the Province of British Columbia. Limited extramural private practice is possible. Commencing date is September 1, 1974. Applications should be received by March 31, 1974. Enquiries with current curriculum vitae and names of two referees should be sent to:

Dr. J. Spouge, Acting Head,
Department of Oral Medicine,
Faculty of Dentistry,
University of British Columbia,
Vancouver 8, B.C.

MANITOBA — Winnipeg. University of Manitoba, Faculty of Dentistry. Applications are invited for a full time position in Periododontics with the Department of Preventive Dental Science, Faculty of Dentistry, University of Manitoba. The successful applicant must have completed an accredited program in Paediatric dentistry.

Duties and responsibilities will include undergraduate teaching and supervision of the Dental Internship Program at the Children's Center of Winnipeg, Health Sciences Center. Intra or extramural practice privilege available.

Academic rank and salary are dependent upon qualifications and experience. For further information forward a curriculum vitae to:

Dr. J.F. Cleall,
Faculty of Dentistry,
University of Manitoba,
780 Bannatyne Ave.,
Winnipeg, Manitoba R3E 0W3

QUEBEC — John Abbott College (CEGEP), Ste. Anne de Bellevue (suburban Montreal), Department of Dental Hygiene requires additional Teaching Staff for September 1, 1974. Experienced dental hygienists, preferably with Baccalaureate degree, will be required for clinical and classroom instruction in a newly developing three Year Dental Hygiene Diploma Program. Some knowledge of French an asset, but not mandatory.

John Abbott is an English speaking community college serving the West end of Montreal. It offers a park-like setting, on campus sports and recreational facilities.

Salary is according to Quebec teacher's contract. Fringe benefits include a pension plan, health benefits, normal school holidays, plus 6 months vacation with pay. Address enquiries or applications with curriculum vitae to:

Director of Personnel,
John Abbott College,
P.O. Box 2000,
Ste Anne de Bellevue, P.Q.

QUEBEC — Montreal. Hygienist required for busy downtown practice. Excellent working conditions, ideal location. French help, not a necessity. Top salary and incentive for person with initiative and willingness to accept responsibility. Reply in own handwriting, stating qualifications to: 35 Braynmor Avenue, Montreal, Quebec.

Butler

ONE SOURCE

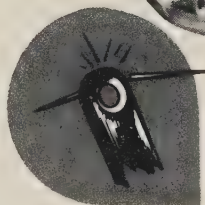
for all your
Preventive Dentistry Aids

The all-new #411

G·U·M®

TOOTHBRUSH

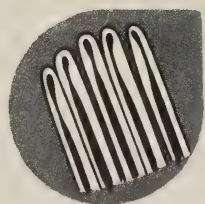
a brush for all reasons



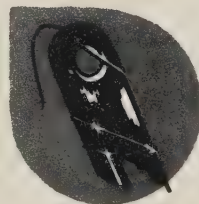
NEW! Toothpick Hole



Stimulator Tip



Rounded/Tapered Bristles



NEW! Floss Holder

- **Exclusive** rounded, tapered bristles reach further into the sulcus and into tiniest crevices.
- **Exclusive** Butler satinizing process, unlike polished ends, duplicates action of natural bristle for more complete plaque removal.
- **Exclusive** new toothpick hole for use as a periodontal aid may also be used as a floss holder.
- **Firm** surgical-rubber tip for deeper, more effective interproximal massage.
- **Wide, sturdy handle** for proper grip and easier manipulation of proper brushing technics.

G·U·M Toothbrushes can be included in Butler Dental Health Control Kits.

Write for Catalog and Professional Rates

Butler

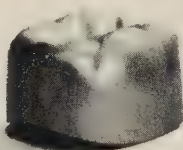
JOHN O. BUTLER COMPANY

103 Elmslie Street, La Salle, P.Q., Canada

QUALITY DENTAL PRODUCTS SINCE 1923

CROWN COLONY

Small wonder so many Doctors like Unitek Crowns and temporaries. There are more than 385 of them in Unitek's Crown Colony to choose from. . . permanent and primary, uppers and lowers, right and left. . . in stainless steel, gold anodized and polycarbonate. Each is precision engineered in shape and size, anatomically correct and pretrimmed, ready to use with accurate gingival contours. . . which means, Unitek Crowns are made to fit the tooth, not the tooth to fit the crown. Molar and bicuspid crowns and temporaries have a distinctive functional anatomy with broader occlusal buccolingually to minimize occlusal interference with other teeth; and at the same time, enhances mastication and hygiene. While our lifelike, chip resistant polycarbonate anteriors are designed with thin proximal and lingual walls to provide you with easier and more flexible adaptation. Think about it, Unitek crowns and temporaries are faster and easier to work with. . . and are completely compatible with your patients. . . and patient pleasing, too. Order your crowns and temporaries from Unitek's crown colony. Do it today.



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1744 Midland Ave., Scarborough, Ont. M1P 3C2 (416) 752-3960

SASKATCHEWAN — Kindersley. Locum wanted for approximately 5 weeks, July 1974, in rural Saskatchewan. Excellent remuneration General practice. Tel: 306-463-2532 or write Dr. B.M. Boardman Box 1504, Kindersley, Sask.

ONTARIO — Cannington. Dental Surgeon required immediately for Cannington Medical Center. This is a new medical building for two General Practitioners and Dentists, situated in Cannington Village (population 1,400) 70 miles North east of Toronto in prosperous well populated mainly farming area which is developing rapidly. Vast scope. Apply Box 310 Cannington, Ontario or phone 705-432-2569.

OPPORTUNITIES WANTED

Experienced dentist wishes to take over dental practice for dentist on holiday or course in British Columbia, Yukon or Northwest Territories for the months of July and/or August 1974.

Invitation for interesting and outstanding

TABLE CLINICIANS

at the C.D.A. Convention

October 6-9, 1974

Four Seasons Hotel, Toronto

Please contact not later than April 15, 1974

Chairman Table Clinics
C.D.A. Convention Committee
234 St. George Street
Toronto 180, Ontario

THE FACULTY OF DENTISTRY

UNIVERSITY OF TORONTO

announces the formation of a Search Committee composed of Dr. A. Dungy, Dr. N. Lavine, Dr. J. Kreutzer, Dr. F. Popovich and Dr. G. A. Zarb to recommend a successor to Dr. J. A. Hargreaves. The Committee would welcome suggestions of names of possible candidates. Please direct replies to Dr. George A. Zarb, Chairman, Dept. of Paedodontics Search Committee, 124 Edward Street, Toronto M5G 1G6.

ASSOCIATESHIPS AVAILABLE

BRITISH COLUMBIA — Victoria. Associate required for practice in Victoria B.C. Please write stating qualifications and earliest commencement date to CDA Box No. 1366.

BRITISH COLUMBIA — Grand Forks. Immediate opening available to join five chair general practice. High annual gross and excellent percentage or terms will be arranged with partnership available. Population area 15,000, beautiful city and climate, all recreation available, just 125 miles north of EXPO 74 — Spokane, Washington. Reply Dr. Mark O'Neill, Box 1120, Grand Forks, B.C. V0H 1H0 or phone 604-442-2177.

BRITISH COLUMBIA — Clearwater. Young associate needed for profitable, carefree branch office in B.C. interior. No investment required. Phone Dr. McNeice — 604-674-9225.

BRITISH COLUMBIA — West Vancouver. Associate desired to join young progressive dentist in a beautiful new office. Two fully equipped operatories, assistant, supplies etc. all provided. Tremendous opportunity to live and work in the nicest area in Canada. Reply Box No. 1371.

MANITOBA — Winnipeg. Oral surgeon certified to practise in Manitoba required for busy Winnipeg practice. Object partnership. Please submit qualifications and address. Reply CDA Box No. 1358.

ONTARIO — Windsor. Associate desired in modern medical-dental centre. All phases of family dentistry with emphasis on prevention. Five sit-down OR's with a full-time hygienist. Reply: Dr. A. Kupsov, 505 Prince Road, Windsor 10, Ontario. Tel: office, 519-258-4371; home, 519-969-0632.

ONTARIO — One or two associates required by May 1st for well-established general practice with unlimited supply of patients. Just one hour west of Toronto. Please reply CDA Box No. 1376.

ONTARIO — Sudbury. An immediate opening for an associate with a view to partnership in a modern diversified practice which presently has two dentists and a dental hygienist. Reply CDA Box No. 1372.

ONTARIO — Toronto West Suburb. Associate required for busy general practice featuring all phases of dentistry. High gross. Modern office and equipment. Opportunity for partnership. Reply CDA Box No. 1373 or phone 251-1891.

ONTARIO — St. Catharines. Associate required to join a group practice, modern facilities, with full preventive program. Reply: Dr. D. C. Goode, 278 Linwell Road, St. Catharines, Ontario.

ASSOCIATESHIPS WANTED

BRITISH COLUMBIA — Young experienced dentist (3 years in all phases of dentistry) wants full time associateship in a modern progressive dental practice preferably located in the North shore of Vancouver. Please reply to CDA Box No. 1374.

EQUIPMENT FOR SALE OR RENT

MANITOBA — Winnipeg. For sale one brand new Quantiflex M.D.M. analgesic machine with large tanks. Reply: Dr. O.W. Michilson, Phone, 772-6818.

GENERAL PRACTICE RESIDENCY

THE BROOKDALE HOSPITAL MEDICAL CENTER BROOKLYN, NEW YORK

is accepting applications for its approved second year General Practice Residency Program in Dentistry. Applicants must be graduates of dental schools approved in New York State.

This program emphasizes sophisticated Oral Surgery, Oral Implantology, Advanced Endodontics, Surgical Periodontics, Fixed Prosthodontics, Orthodontics, Oral Medicine, etc. Stipend for the year is \$14,700.00 plus including uniforms.

For information and application forms, contact Dr. A. Norman Cranin, Director of Dental and Oral Surgery, The Brookdale Hospital Medical Center, Linden Blvd. and Brookdale Plaza, Brooklyn, New York 11212.

THE INTEGRATION OF PERIODONTAL THERAPEUTICS WITH CROWN AND BRIDGE PROCEDURES

The Mount Royal Dental Society and La Société Dentaire de Montréal are sponsoring a two day limited attendance course in Montreal, March 22, 23, 1974. The program will be presented by Dr. Ralph Yuodelis, professor and director of graduate restorative dentistry, University of Washington, Seattle, Washington. The correlation of periodontal and restorative procedures in the treatment of pathologic conditions of teeth and their supporting structures is to be covered with emphasis on:

- recognition and correction of gingival and/or osseous pathology of abutment teeth
- modification of edentulous areas for pontic adaptation
- root amputation and hemisection
- effects of crown contours and pontic design on periodontal health
- occlusal considerations, objectives and procedures
- temporary and long-term stabilization of mobile teeth.

Registration: **Mount Royal Dental Society —
La Société Dentaire de Montreal**
c/o Dr. John D. Townsend
Dental Department,
Montreal General Hospital
1650 Cedar Avenue
Montreal, Quebec H3G 1A4

Tuition: \$100.00

**SASKATCHEWAN
DEPARTMENT OF PUBLIC HEALTH**

Requires

**DENTISTS
DENTAL SPECIALISTS**

Applications are invited from interested dentists and dental specialists who wish to be considered for future employment in the Saskatchewan Dental Care Plan for Children.

These positions which are to be established during the coming year will offer a unique opportunity for members of the profession to become involved in North America's first province wide publicly run Denticare Program for Children.

A team approach will be used to deliver both preventive and treatment care services to children up to 12 years of age. Saskatchewan Dental Nurses, Certified Dental Assistants and dentists together with supportive staff will make up the teams. Full and/or part-time positions will be available throughout the province.

These positions call for dedicated, energetic, self-starters. Age is no barrier.

Basic duties will include examination, diagnosis, treatment planning, and referral of children to dental auxiliaries and dentists. Dental treatment services for children will also be carried out by the incumbents of these positions.

QUALIFICATIONS FOR LEVEL I:

- D.D.S. or D.M.D. degree
- eligible for registration with College of Dental Surgeons of Saskatchewan
- practice experience related to Pedodontics

QUALIFICATIONS FOR LEVEL II:

- as in Level I plus one of the following —
- Formal Postgraduate training in Pedodontics. Diploma or Masters
- Formal Postgraduate training in Orthodontics. Diploma or Masters
- Formal Postgraduate training in Public Health or Community Dentistry. Diploma or Masters.

REMUNERATION — Commensurate with qualifications and experience.

Graduates of U.S. and Canadian Dental Schools can register in Saskatchewan without further examination. Boards not required.

For further information and application forms, write to:

Director, Dental Health Division
Department of Public Health
3211 Albert Street
Regina, Saskatchewan, Canada

**MASTER OF CLINICAL DENTISTRY
(ORTHODONTICS)**

**THE UNIVERSITY OF WESTERN ONTARIO
FACULTY OF DENTISTRY**

Applications for the two-year course leading to the above degree will be considered through March 1974.

Applicants must have a degree from a recognized dental school. The purpose of the program is to provide the academic background and clinical experience appropriate to the specialty of orthodontics as practised in North America and as recognized by the C.D.A., R.C.D.S., and R.C.D.(C.)

Enquiries should be addressed to:

W.S. Hunter, D.D.S., Ph.D.

Professor and Chairman, Division of Orthodontics
Faculty of Dentistry,
The University of Western Ontario
London, N6A 3K7, Canada.

**UNIVERSITY OF QUEENSLAND
CHAIR OF ORAL BIOLOGY**

The University invites applications for a new Chair of Oral Biology within the Department of Dentistry. The applicant should hold a degree in Dentistry registrable in the State of Queensland, and a higher degree preferably in the area of Oral Biology. He should also be experienced in teaching and have a distinguished research record. (Quote Reference No. B72173).

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Fédération dentaire internationale, London, England, September 8-14, 1974.

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Further information can be obtained from Professor Peter Reade, Department of Dental Medicine and Surgery, School of Dental Science, University of Melbourne, 711 Elizabeth Street, Melbourne, Victoria 3000, Australia.

Information including details of application procedure and conditions of appointment is available from the Registrar, University of Melbourne, Parkville, Victoria 3052, Australia. Applications referring to position No. 233004 should be addressed to the Registrar and close on March 31, 1974.

ADVERTISERS' INDEX

	Page(s)
Ash Temple Ltd.	188
Astra Pharmaceuticals (Canada) Ltd.	OBC
Block Drug Company (Canada) Ltd.	IFC, 166, 168
John O. Butler Co.	233
L.D. Caulk Company of Canada	173
Ceramco Inc.	196
Cooke-Waite Laboratories Limited	180, 181
Denco	178
Dentsply International	160, 189, 195
Charles E. Frosst & Co.	165
Inter-Unitek Canada Ltd.	171, 234
Ivory Company	190
Janar Co. Inc.	175
Medi-Dent	179
Mo-dent Ltd.	194
Proctor & Gamble (Canada)	159
Shaw Research	164
Shofu Dental Corporation	192
Tek Hughes	237
The Upjohn Company of Canada	162, 163
Weil Dental Supplies Limited	230
Whaledent Inc.	IBC
S.S. White Company	182
Williams Gold Refining Co. (Canada) Ltd.	177

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**CONGRES NATIONAL
CONVENTION**
TORONTO
OCT. 6 - 11, 1974



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE

1974 OCT 6-11 TORONTO, ONTARIO CANADA TEL: 593-3761

IMPORTANT: This form is to be completed by those desiring advance registration and accommodation in Toronto during the forthcoming convention. Please mail the complete form, and, where applicable, your cheque for \$50.00, to the CONVENTION BUREAU at the above address. **To receive your choice of accommodation, and first option on tickets to social events, register early! Preregistrations will not be accepted after the end of August, 1974.** After August 31, please make your accommodation

arrangements directly with the hotel of your choice, and register at the convention registration facilities in the Four Seasons Sheraton Hotel, upon your arrival. Ticket sales, major social events and commercial exhibits will also be at the Four Seasons Sheraton Hotel. The general scientific sessions will be at both the Four Seasons Sheraton and the Downton Holiday Inn. The two hotels are quite close to one another, and each is the largest in its respective world wide hotel chain.

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The registration fee for dentists is \$50.00. Dentists' wives may register without charge, as may exhibitors. Make your cheque payable to CDA National Conventions.

231

REGISTRATION

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TORONTO
du 9 au 13 oct. 1974
CONVENTION



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Le prix d'inscription pour les dentistes est de \$50.00. Inscription gratuite pour les femmes des dentistes et les exposants. Rédigez votre chèque à l'ordre du Congrès National de l'ADC.

CDA CONVENTION SCIENTIFIC PROGRAM SHAPING UP

"The message we are trying to get across is that if you are a heart patient, it doesn't mean you are a cripple."

With these words, Dr. Terry Kavanagh, medical director of the Toronto Rehabilitation Centre brings hope, as well as statistics, to the October 6-9 CDA Convention in Toronto. Dentists will hear there has been a 60 per cent increase in coronary deaths in the past 15 years, many linked to a sedentary lifestyle. The effects of a physical fitness program in preventing a primary attack and decreasing the possibility of a recurrence will form Dr. Kavanagh's presentation.

Shaping up, as well, is the rest of the Scientific Program, according to chairman, Miet Kamienski. Oral Surgeon, Paul Chapnick has chosen to approach surgical problems from the point of view of the exceptional susceptibility of the jaws to destructive infections. "The Porcelain Fused to Gold Restoration," is the topic of Donald Kramer. His comments on the new semi and non-precious porcelain alloys being rushed onto the dental market will be especially appreciated. Appropriately, another speaker will be Ralph Phillips, dentistry's foremost investigator of dental materials. His knowledge of adhesive restorative systems, acid etch techniques, fluoride-containing cements and restoratives, dispersion and spherical alloys, carboxylate and zinc oxide-eugenol permanent cementing agents will clarify much of the controversy related to these many new products.

FOLLOW-UP TO BANFF DENTAL AUXILIARY CONFERENCE

The new, combined Council on Health Care met, for the first time, March 4-6 at CDA headquarters. Among the actions taken on its very heavy agenda, was follow-up of the excellent Banff Dental Auxiliary Conference.

The Council's Committee on Auxiliary Services will study the Conference report, the recommendations of the organizers and other suggestions which have been received and design its own set of proposals for Conference follow-up with identification of priorities, scheduling, methods and costs applicable in each case. These proposals will be circulated for approval and endorsement. The Council will proceed to implement those which fall within its purview and the remainder of the proposals will be presented to the Board of Governors for consideration and direction.

QUEBEC DENTAL SURGEONS ACCEPT PLAN

The Quebec Dental Surgeons Association voted March 9 in favor of the provincial government's plan to provide free dental care for children under 7.

The program was originally scheduled to begin December 1, 1973 but was postponed and then put off to an indefinite date, pending agreement between the two parties. The specialist group, the Quebec Association of Oral Surgeons, had agreed to participate in the denticare plan as of last October.

A new date will now be set for implementation of the plan.

ALBERTA'S CHICHAK REPORT ON PROFESSIONS AVAILABLE

Advance copies of the Report of the Special Committee of the Legislative Assembly of Alberta on Professions and Occupations, known as the Chichak Report, are now available. Among its 28 consolidated recommendations are a number which would radically change the current approach of self-governing associations.

The report states "...existing statutes relating to professions and occupations do not contain the necessary safeguards to ensure that the basic rights of individuals will be protected."

Part of the criteria for recognizing eligibility as a professional or occupational organization would include: evidence that recognition would not permit a monopoly which could unduly restrict the numbers licensed to practice or establish unreasonable fee schedules; and evidence of some mechanism to provide for ongoing upgrading and continuing competence of members, as well as evidence of clearly identifiable admission procedures.

A major recommendation is that a self-governing association not have control over certification and that licensing qualifications be set out in legislation. It also recommends no professional or occupational group be controlled by the members of another professional or occupational group except for matters of work supervision.

The Alberta Dental Association prepared a brief and appeared before the Committee a year ago. The Report has been tabled in the Legislature and any legislation will be proposed during the current session.

FALL START FOR SASKATCHEWAN CHILDREN'S PLAN

A children's dental care plan, based on the school system, will be introduced by the Saskatchewan government this September, according to Dr. T.M. Curry, director of dental health. The program calls for a dental care team consisting of staff dentists, the new-type Saskatchewan dental nurse and certified dental assistants. Initially only six-year-olds will be enrolled.

Some apprehension has been expressed by provincial dentists about the level of effective dentist-supervision of the dental nurse. She is trained to do simple fillings, extract deciduous teeth and perform other techniques as directed by the staff dentist, who makes the original examination and sets the recall pattern.

Present government plans call for only three months of supervision when the dental nurses first start to operate. The Saskatchewan College of Dental Surgeons hopes continual supervision will be provided to avoid complications arising from cases the nurses are not trained to handle.

Major objection to the plan is the lack of freedom of choice. If parents decide to seek out a private dentist on their own initiative, it is at their own expense.

LES CHIRURGIENS DENTISTES DU QUEBEC ACCEPTENT LE REGIME

L'Association des chirurgiens dentistes du Québec a voté, le 9 mars dernier, en faveur du régime provincial de soins dentaires pour les enfants de moins de 7 ans.

A l'origine, le Régime devait débiter le 1er décembre 1973, mais son entrée en vigueur fut tout d'abord retardée, puis remise à une date indéfinie, conformément à l'entente des deux parties. Le groupe des spécialistes, l'Association des chirurgiens buccaux du Québec, avait accepté de participer, dès octobre dernier, au Régime de soins dentaires.

Une nouvelle date sera arrêtée pour la mise en oeuvre du Régime.

LE PROGRAMME DU CONGRES SCIENTIFIQUE DE L'ADC PREND FORME

"Si vous êtes cardiaque, vous n'êtes pas de ce fait infirme. Voilà le message que nous désirons transmettre."

C'est en ces termes que le docteur Terry Kavanagh, directeur médical du Centre de réadaptation apportera de l'espoir autant que des statistiques au Congrès de l'ADC à Toronto, du 6 au 9 octobre prochain. Les dentistes y apprendront que la mortalité par maladie coronarienne s'est accrue de 60 pour cent depuis 15 ans. Plusieurs mortalités sont reliées au mode de vie sédentaire. La communication du docteur Kavanagh portera sur les effets d'un programme de mise en forme physique pour prévenir une crise primaire et réduire l'éventualité d'une récurrence. Le président, le docteur Miet Kamienski, a révélé que le soin de la condition physique fera aussi l'objet des autres parties du programme scientifique. Le docteur Paul Chadnick, chirurgien buccal, traitera des problèmes chirurgicaux, du point de vue de la susceptibilité exceptionnelle des maxillaires aux infections destructives. "La porcelaine fusionnée à l'or pour la reconstitution," tel sera le sujet présenté par le docteur Donald Kramer. Ses commentaires sur les alliages de semi-porcelaines non précieux, qui ont envahi le marché dentaire, seront particulièrement appréciés. Un autre conférencier présentera une communication appropriée. En effet, le docteur Ralph Phillips est le chercheur le plus reconnu dans le domaine des matériaux dentaires. Sa connaissance dans ce domaine ne manquera pas de clarifier une foule de controverses que l'on relève au sujet des nombreux produits nouveaux.

SUITE DE LA CONFERENCE DES AUXILIAIRES DENTAIRES A BANFF

Le nouveau Conseil conjoint sur les soins de santé s'est réuni pour la première fois au secrétariat général de l'ADC, du 4 au 6 mars dernier. Au nombre des mesures prises, parmi les nombreux projets à l'ordre du jour, citons la décision de donner suite à l'excellente Conférence des auxiliaires dentaires à Banff.

Le Comité des Services auxiliaires du Conseil étudiera le rapport de la Conférence, les recommandations des organisateurs, et les autres suggestions reçues. Le Comité exprimera aussi ses propositions particulières touchant la suite de la Conférence, en vue de déterminer les priorités, le plan d'exécution et les méthodes préconisées, ainsi que les frais attribuables dans chaque cas. Ces propositions seront soumises à l'approbation des intéressés. Le Conseil s'attachera ensuite à mettre à exécution les propositions qui relèvent de sa compétence. Les autres propositions seront soumises à la considération et aux directives du Conseil des Gouverneurs.

LE RAPPORT CHICHAK DE L'ALBERTA SUR LES PROFESSIONS

Des exemplaires précédant la distribution régulière du Rapport du Comité spécial de l'Assemblée législative de l'Alberta sur les professions et les métiers, connu sous l'appellation de Rapport Chichak sont maintenant disponibles. Parmi les 28 recommandations, on en relève un certain nombre qui pourraient transformer radicalement le point de vue qui prévaut actuellement à l'égard des associations autonomes.

Le rapport déclare que "les statuts actuels régissant les professions et les métiers ne contiennent pas les mesures susceptibles de protéger les droits fondamentaux de l'individu."

Les critères distinguant l'éligibilité d'une profession ou d'un organisme groupant des métiers comprennent entre autres: le témoignage attestant que la reconnaissance de l'organisme n'entraînera pas un monopole qui limiterait indûment le nombre d'individus autorisés à la pratique d'un métier ou d'une profession, ou qui adopterait un barème d'honoraires déraisonnable; un autre critère réclame l'existence d'un mécanisme permanent susceptible d'améliorer constamment la compétence de ses membres, ainsi que des conditions d'admission clairement déterminées.

Une recommandation importante prévoit que toute association autonome ne détienne aucun pouvoir de régie sur l'autorisation et que la compétence exigée pour la justifier soit déterminée par voie législative. Cette recommandation interdit aussi qu'un groupe professionnel ou de métier soit régi par les membres d'un autre groupe professionnel ou de métier, sauf sur les questions relevant de la supervision du travail.

L'Association dentaire de l'Alberta a préparé un mémoire et a comparu devant le Comité, il y a un an passé. La Chambre a été saisie alors du rapport, et des mesures législatives seront proposées durant la session en cours.

LE REGIME POUR LES ENFANTS DEBUTERA CET AUTOMNE EN SASKATCHEWAN

Le gouvernement de la Saskatchewan présentera, en septembre prochain, un régime de soins dentaires pour les enfants, basé sur le système scolaire, a révélé le docteur T.M. Curry, directeur de la santé dentaire. Le régime prévoit la mise en place d'une équipe dentaire comprenant un personnel formé de dentistes, d'infirmières dentaires, selon les nouvelles normes adoptées en Saskatchewan, et des auxiliaires dentaires autorisées. Au début, les avantages du régime seront limitées aux enfants de six ans.

Les dentistes de la province ont exprimé une certaine appréhension concernant le degré d'efficacité de la supervision des infirmières dentaires par les dentistes. L'infirmière dentaire a reçu la formation professionnelle requise pour effectuer des obturations simples, des extractions de dents primaires, et pour appliquer d'autres techniques prescrites par les dentistes du personnel, qui sont chargés de l'examen original et du mode de rappel adopté.

D'après le régime proposé, le gouvernement n'exige que trois mois de supervision, après l'entrée en service de l'infirmière dentaire. Le Collège des chirurgiens dentistes de la Saskatchewan compte sur l'existence d'une surveillance continuelle, afin de prévenir les complications éventuelles entraînées par les cas particuliers, qui ne sont pas du ressort de l'infirmière.

L'absence de liberté touchant le choix du praticien constitue la principale objection à l'égard du régime. Le choix d'un dentiste en pratique privée, relève de l'initiative des parents et demeure entièrement à leurs frais.

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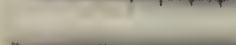
Normal home usage—children—J. Canad. Dent. Assn. 36:262, 1970



Normal home usage—children—J. Dent. Child. 37:501, 1970



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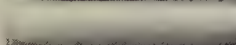
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Fluoridated water—children—J. Dent. Child. 38:211, 1971



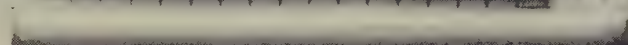
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Executive Director's Page	257
Editorials	
Dental auxiliaries — cultural shock	253
Acupuncture	253
Viewpoint	
The changing role in dental health delivery	255
Special Features	
Dental therapists in the Canadian North — Davey	287
Innovations in dental practice	285
ADA Convention news	261
Regular Features	
Dentistry in the news	264
Des actualités dentaires	279
Deaths	274
Announcements	249
Articles	
Penicillin substitutes — erythromycin and clindamycin — deVries and Francis	295
Restoration of endodontically treated teeth: A review — Abdullah, Thayer and Mohammed	300
Emergence des dents permanentes chez les enfants canadien-français — Perreault, Demirjian and Jenicek	306
Classified advertising	315
Advertisers' index	320
Photo credits: Dr. Wyn Williams of Fort Smith, photos pages Daryl Bespflug — Banff Conference Marjorie Weich — Banff Conference	287-291

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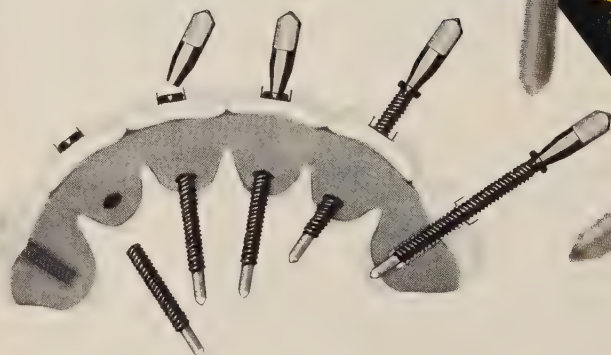
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Canadian Dental Association

1974 Toronto, Ont, Oct 6-9
Complete details available from registration form. See last page.
1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14
1975 Chicago, USA, Oct 26-30

Canadian Meetings

Quebec Dental Surgeons Association, at Bonaventure Hotel, Montreal. May 1-3, 1974. Mr. de Bastien, 4290 Beau-bien St E, Montreal 409, Que.

College of Dental Surgeons of British Columbia, at Hyatt Regency, Vancouver. May 1-4, 1974. K.L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC.

College of Dental Surgeons of Saskatchewan, at Moose Jaw. May 2-4, 1974. R.G. Tessier, 310 Hammond Bldg, Moose Jaw, Sask. S6H 3K1.

Ontario Chapter, Canadian Society of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto. May 12, 1974. A.F. Dungy, Ontario Crippled Children's Centre, 350 Rumsey Rd, Toronto 350, Ont.

Toronto Academy Crown and Bridge Study Club (one-day clinic), at Four Seasons-Sheraton Hotel, Toronto. May 12, 1974. M. Lucyk, 305 South Kings-way, Toronto 3, Ont.

Atlantic Provinces Dental Convention, at Dalhousie Arts Centre, Halifax. May 12-15, 1974. Dr. S.G. Bagnall, Executive Secretary, NS Dental Assn, P.O. Box 604, Halifax, NS.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 12-15, 1974. Mrs. W.C. Durham, 230 St. George St, Toronto, Ont, M5R 2P1.

Alberta Dental Association, at Palliser Hotel, Calgary. May 30-31, 1974. J.R. Duncan, 306, 1711-4th St. S.W., Cal-gary, Alta.

Sixth International Conference on Oral Biology, at Toronto, June 3-5, 1974. G.S. Beagrie, Faculty of Dentist-ry, 124 Edward St., Toronto, Ont. M5G 1G6.

Nova Scotia Dental Association, at Old Orchard Inn, Greenwich, NS. June 7-8, 1974. Dr. S.G. Bagnall, Executive Secretary, NS Dental Assn, PO Box 604, Halifax, NS.

Canadian Public Health Association, at the Arts and Culture Centre, St. John's, Nfld. June 17-20, 1974. CPHA, 1255 Yonge St, Toronto, Ont. M5T 1W6.

The Association of Canadian Faculties of Dentistry/L'Association des Facul-tés Dentaires du Canada, at Digby Pines, Digby, Nova Scotia. June 17-19, 1974. Dr. G.W. Myers, 3036 Dentist-ry/Pharmacy Centre, University of Alberta, Edmonton, Alberta, T6G 2H7.

Northern Ontario Dental Association, at North Bay, Ont. Sept 6-8, 1974. R.C. Weegar, 539 Cassells St, North Bay, Ont.

Canadian Association of Ortho-dontists, at Toronto, Sept 28, 1974. J.J. Schachter, Box 952, Saskatoon, Sask.

Canadian Academy of Periodontology, at Hyatt Regency Hotel, Toronto. Sept 29-30, 1974. J.D. Stewart, 311 Rubidge St., Peterborough, Ont. K9J 3P3.

Canadian Society of Public Health Dentists, at Toronto, Ont. Oct 6-7, 1974. J.M. Conchie, 14265 — 56th Ave, Surrey, BC.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd, Ste 810, Toronto, Ont.

Canadian Academy of Oral Radiology, at Toronto. October 6, 1974. D.W. Stoneman, Dept. of Radiology, Facul-ty of Dentistry, 124 Edward St., Toronto M5G 1G6.

Society for Clinical and Experimental Hypnosis, Scientific Program and Workshops, at the Ritz-Carlton Hotel, Montreal. Oct 8-13, 1974. Germain Lavoie, Hopital Saint-Jean-de-Dieu, Montreal, Que. H1N 1Z0.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov 18-20, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov 28, 1974. Mrs. P. Wil-liams, 230 St George St, Toronto, Ont M5R 2P1.

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975. J. Bradey, 320 Eramosa Rd, Guelph, Ont.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W.C. Durham, 230 St George St, Toronto, Ont M5R 2P1.

Western Canada Dental Society, at Sas-katoon. June 11-15, 1975. J.C. Horn, 101-230-20th St E, Saskatoon, S7K 0A6.

Canadian Society of Public Health Dentists, at St John's, Nfld. Aug 17-20, 1975. J.M. Conchie, 14265 — 56th Ave, Surrey, BC.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Oct 25-26, 1975. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Oct 27-29, 1975. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

International Meetings

German Dental Congress, at Hamburg, Germany. Apr 15-28, 1974. Bundes-verband der Deutschen Zahnärzte e.V., 5 Köln 41, Postfach 410168, Ger-many.

International Congress of Maxillofacial Radiology, at Kyoto, Japan, April 18-21, 1974. Secretariat, International Congress of Maxillofacial Radiology, Gifu College of Dentistry, P.O. Box 2, Hozumi, Gifu 501-02, Japan.

American Society of Preventive Dentistry (Ontario Chapter), at Inn on the Park, Toronto. Apr 19, 1974. B. Garshowitz, 229 Yonge St, Ste 213A, Toronto, Ont M5B 1N9.

International Conference on Oral Surgery, at Madrid, Spain. Apr 21-25, 1974. International Conference on Oral Surgery, PO Box 46078, Madrid, Spain.

International Congress on Dentistry for the Handicapped, at Amsterdam, Holland. Apr 22-24, 1974. M.M. Album, Medical Arts Bldg, Hillside Ave and York Rd, Jenkintown, Pa 29046, USA.

American Academy of Oral Pathology, at the Fairmont-Roosevelt Hotel, New Orleans. April 29-May 3, 1974. G.G. Blozis, College of Dentistry, Ohio State University, Columbus, Ohio 43210, USA.

California Dental Association, at Anaheim, Calif. May 4-6, 1974. E.K. Lew, Chairman Publicity Committee, P.O. Box 91258, Los Angeles, Calif. 90009.

American Academy of Oral Medicine, at Daytona Beach, Florida. May 3-7, 1974. L. Botwinick, General Chairman, 57 West 57th St., New York, NY 10019.

American Association on Mental Deficiency, at Royal York Hotel, Toronto. June 4, 1974. Dr. K.E.J. Sansom, American Assn on Mental Deficiency, 5201 Connecticut Ave, N.W., Washington, D.C. 20015.

Asian-Pacific Dental Congress, at Jakarta, Indonesia. June 18-22, 1974. Dr. Yetty Rizali Noor, Faculty of Dentistry, Trisakti University, Grogol, Jakarta, Indonesia.

Australian Orthodontic Congress, at Sydney. Aug 5-9, 1974. P. Kinsella, 11 Anderson St, Chatswood, N.S.W. 2067, Australia.

New Zealand Dental Association, at Auckland. Aug 26-30, 1974. General Secretary, New Zealand Dental Association Conference, PO Box 28084, Auckland 5, NZ.

British Society of Periodontology, London, England. Sept 5-7, 1974. Registration and accommodation forms: Ian M. Waite, Dept. of Periodontology, Institute of Dental Surgery, Eastman Dental Hospital, 256 Gray's Inn Rd, London WC1 8LD, England.

Annual World Dental Contress of the FDI, at Royal Festival Hall, London. Sept 8-14, 1974. A.G. Alexander, British Dental Assn, 64 Wimpole St, London, England.

Pacific Dental Federation, at Acapulco, Mexico. April 20-26, 1975. J. Alvarez, Federacion Dental del Pacifico, Ezequiel Montes 92, Mexico 4, D.F.

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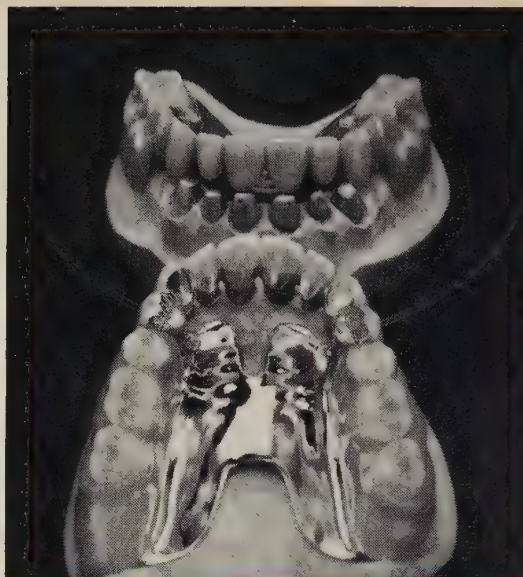
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EDITORIAL

Dental auxiliaries — cultural shock!

Dental auxiliaries of the type being trained at Fort Smith comprise a cultural shock to the traditional dentist. Who can picture G.V. Black, father of modern dentistry, assigning cavity preparations or placement of restorations to an auxiliary? He, like those following, took a great personal pride in the artistry and perfection of every procedure. They spent their lives perfecting each step of their work; they invented new instruments and materials and taught themselves how to use them. Their patients came for personal attention by the dentist they had learned to trust and respect. Make no mistake — the arrival of auxiliaries in the dental clinic touches the dentist's pride. It is difficult for him to believe that his own patients, drawn to him for many years by his dedicated service, would ever accept work from the hands of young assistants. We believe that a great many of our profession who have built their practices over half a lifetime need have no fears. They are quite right in expecting that their practices will stay with them for as long as they care to be active. A new era is approaching, but things don't change overnight.

But the younger dentists, all the newer graduates, have been trained from the beginning of their undergraduate courses to think of the practice of dentistry as a team activity. The advantages of "four handed dentistry" etc. have been proven through higher productivity. Modern graduates expect to be able to draw on assistance from laboratory technicians, hygienists and dental assistants, knowing that these modern auxiliaries are competent in every way. Furthermore, they, like the public, recognize dentistry to be an essential health service which society has decided should be available to the entire population regardless of the problems of economics and geography. Provision of dental care to even the remotest parts of this country, and at a price which patients can afford, requires recognition of the economic principle of division of labor. It is not defensible for a university-trained dentist to occupy his time doing tasks which can be learned in a few months or years. Nor can the fully-trained dentist be afforded at remote outposts where much time would be lost in travel

or performing emergency duties. Yes, dental auxiliaries are needed and here to stay. The profession should welcome them as respected members of the dental team because, like it or not, the economic survival of this branch of health science lies in the auxiliaries' helping hands.

R.M.G.

Acupuncture

The Canadian medical delegation to China recommended in June 1973 that acupuncture be considered a medical act — legally and otherwise. Further, that it be considered in an experimental stage, subject to controls applicable to clinical research. This was further enunciated at a provincial level by the College of Physicians and Surgeons. The College of Physicians and Surgeons of Ontario stated that in their opinion acupuncture is an act in the practice of medicine but is only in the experimental state in this country; that clinical trials may be authorized; that it may be carried out only with informed consent of the patient; and that no fees may be charged. The Royal College of Dental Surgeons of Ontario have requested that when legislation is introduced by the Minister of Health, dentists not be excluded as far as it relates to the scope of dental practice.

As to the present legal position of a dentist employing acupuncture in his practice, we obtained an opinion from Dr. K.F. Pownall, Registrar/Secretary-treasurer of the RCDS, as follows: "Until acupuncture is understood and taught as a regular part of the dental curriculum, if a patient was injured by a dentist employing acupuncture, the decision of a court as to whether negligence was involved would probably rest on the extent of training of the dentist in acupuncture." It therefore behooves the dental profession to adopt the same stance as the College of Physicians and Surgeons at this time. Meanwhile, we welcome enthusiastically the appointment of Dr. Robert Locke of the University of Toronto, Faculty of Dentistry, and Toronto General Hospital, Department of Surgery, as a member of the group of Canadian clinicians who will travel to China this summer for six weeks to study acupuncture.

R.M.G.

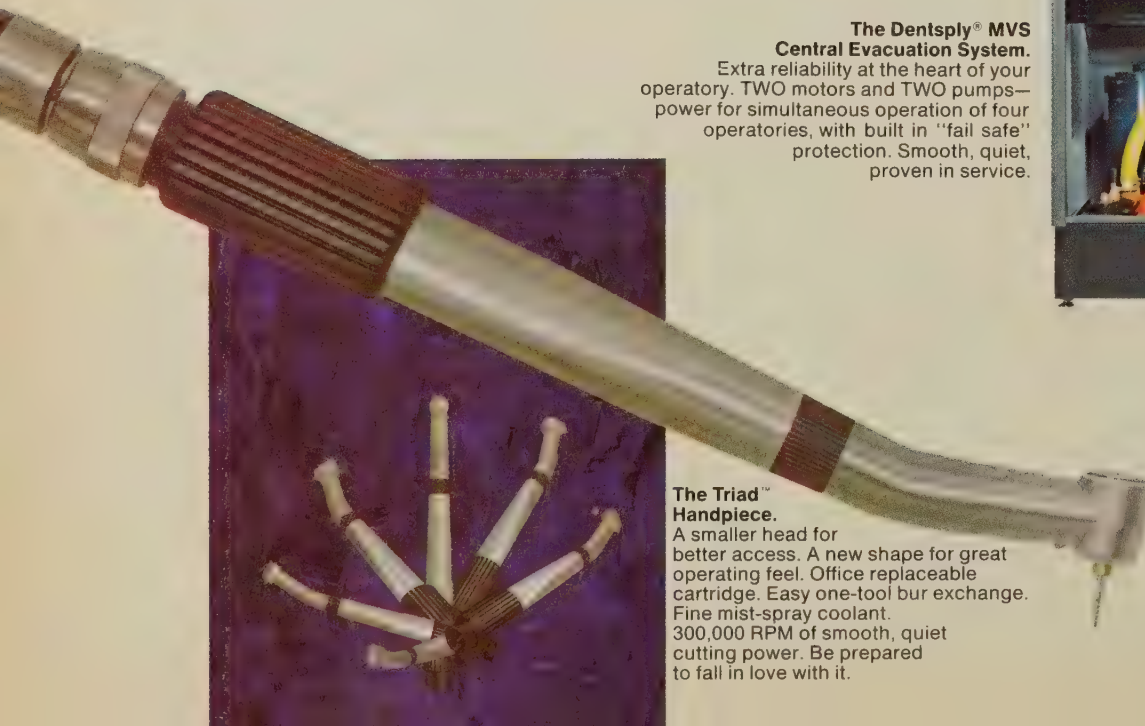
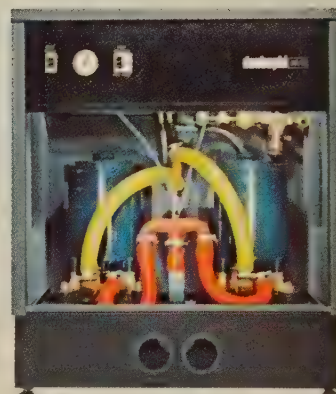
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VIEWPOINT

The changing role in dental health delivery

This fall the Saskatchewan Government's Dental Nurse Program will begin operating in various centres. The projected enrolment will be 60 nurses and 160 dental assistants, for the fall of '74. The projected enrolment of dental students is now to be 20 (down from a previous 30). What then is the role of the dentist in the delivery of dental health care?

Technicians and "paradentics" are now being allowed, legally and illegally, to do some of the work once delegated only to the nimble-fingered dentist. As time has progressed, auxiliaries have encroached more and more on the dentist's duties. And why not? It is reasonable to expect that many of the dentist's duties can be carried out by suitably trained auxiliaries. The problem arises when they are not trained in recognized schools but instead receive training, as in feudal days, by apprenticing with 'Old Masters.' Any of the technical skills and related principles of a dentist can be taught to an auxiliary in a relatively short period of time. Where does this leave the dentist?

At present, he is being trained as in days of yore. Much time is spent teaching and practising feats of dexterity which would amaze even the most astute plastic model airplane builder. The rationale behind this is that the dentist should be better than the technician if he must train the technician.

Therefore, less time is being spent on other aspects of dental education. What is needed now is recognized technical training and a concurrent change in emphasis in dental training, for the role of the dentist in the dental health delivery team.

At present, there is little need for the emphasis on technical skills so prevalent in present dental school curricula. The medical profession do not learn every step involved in a technical lab procedure. Rather, there is emphasis on why and when to use a specific test and the application of the results. Why should there not be the same emphasis in dentistry? The "why and when" of dental treatment seems to be overshadowed by the "how" of dental procedures.

The role of the dentist should be elevated to that of a health professional looking after the total oral health of the patient rather than providing a quantitative technical service (for example, filling three teeth in one appointment). The dentist should be concerned with accurate and thorough diagnosis and treatment planning, as well as prevention and treatment of the more complicated oral conditions.

Submitted by: Joel Epstein
Dane Moore

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EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

CONTINUING SERIES ON CDA SERVICES

Bureau of Dental Statistics

How many dental practitioners in Canada? How many specialists? What type? Where? What is the latest information on dental incomes — gross receipts — office expenses? How do dentists' incomes vary with the number and type of auxiliary employed in the office? How many dentists work full time? Part time? What measures of a dentist's productivity are there? How much does it cost to educate a dentist? An auxiliary? How much does it cost to set up an office? What projections are there for dental manpower requirements in the foreseeable future? What are Canada's dental needs? How do the needs compare with the demands?

These and hundreds of related questions are regularly being directed to the Association's Bureau of Dental Statistics. The requests come from individual dentists, from dental associations, from dental auxiliaries and their groups, from educational institutions, from students, from the public, from governments both provincial and federal, from foreign dentists, from the news media, and from other national and international associations.

The requests are usually for provincial and community breakdowns as well as for national figures.

Until quite recently, there were only two sources for this kind of information — the Association and government. Two or three of the provincial

dental associations are now starting to collect provincial data for their own use. Probably because the Association's Bureau, with its stringent financial limitations, has not been able to keep up with their requests or undertake the special studies needed by the provinces.

Unless the dental profession has its own data on all aspects of dental practice, along with the expertise to assess and interpret the information, the profession is at the mercy of those who do have, or claim to have the facts. Statistical information is necessary to evaluate what has gone before, to relate to the present and to project for the future.

In addition to maintaining annual records of many related items, the Bureau has attempted an exhaustive survey of dental practice every fifth year since 1958. The reports of these surveys have been made available to the profession. They have been used extensively. The chief criticisms against them have been that the questionnaires were too complicated, they took too long for the dentists to complete, and the information was out of date before it was available to the profession. Recognizing the validity of these criticisms, the Bureau is now working with the provincial licensing boards and corporate members in an effort to design a plan which will overcome the former criticisms. The new simplified approach is being instituted in 1974. With the co-operation of the members of the profession, it will provide accurate, up-to-date

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Executive Director's Page from page 257

statistical data about dentists and their practices. The data will be computerized and, therefore, will be almost immediately available to the profession.

The Board of Governors has, on several occasions, approved resolutions directing that the work of the Bureau be expanded. Each time the proposed expansion had to give way to other Association priorities and to financial restrictions. Consequently, the expansion has not taken place. The Association's default in this area has encouraged some of the corporate members to consider setting up data collecting systems on their own. If this continues there will be a costly duplication of effort, confusion as to who is doing what, accumulation of data from different parts of the country which are not comparable, no central source for all the statistical information, and unnecessary infringement on the practitioners' time to fill out repetitive questionnaires.

While a few provincial dental associations may be prepared to collect and analyze their own dental statistics, others are not. Statistical information is, however, critical to the dental profession in all provinces, as it is nationally. The Association's Bureau of Dental Statistics is trying to fill this need. It recognizes its present limitations. It would like to have the resources to enable it to supply all the profession's needs in this most important area, but does not yet have even minimum facilities for a task of this magnitude.

If such resources are not available, the profession will be dependent on outside sources for information about itself — sources which are likely to be costly and/or biased.

Question No. 13

1. Is the collection, tabulation, analysis and dissemination of statistical information related to dental practice, a service you want your national association to provide?

2. If the Association has a Bureau of Dental Statistics, do you think it should be expanded to the point it can service the statistical needs of the provincial associations so they will not have to establish data centres of their own?

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*Goldman, H. M., and Cohen, D. W.: Periodontal Therapy, ed. 4, St. Louis, The C. V. Mosby Company, 1968, pp. 319-320.

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182 Exhibits!

Canada's largest dental exhibition will again be a part of the CDA national convention this October. A complete range of dental products and services will be displayed on the convention floor of the Four Seasons Sheraton Hotel.

CDA BOARD OF GOVERNORS MEETS OCTOBER 3-5

The annual meeting of the Board of Governors of the Canadian Dental Association will take place at Toronto's Four Seasons Sheraton Hotel, October 3-5, 1974. Many important issues and problems face dentistry and its national association. Deliberations of the Board and its reference committees are open to all CDA members. You are encouraged to attend and participate. Major agenda items will be publicized well before the meeting.



Table clinics need not be restricted to the science of dentistry. Drs. Leonard Abe and Robert Pick plan to cover as broad a spectrum as possible in the table clinic programme being planned for this year.

Toronto

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HELP US BREAK OUR OWN RECORD . .

The CDA 1973 National Convention held in Vancouver last October, was Canada's largest dental convention, Canada's largest 1973 professional meeting, and a tremendous success in every way! Total attendance reached 4,200, several times the number of dentists in British Columbia! We want to make the 1974 Toronto meeting, October 6-9, even better.

A number of experiments were tried at the Vancouver meeting and the best of the results and knowledge obtained will be applied this year. The Vancouver President's Party, with its continuous entertainment, first rate and imaginative cuisine, and excellent turnout, was described by many participants as the best party ever staged. Wait until you hear about the CDA President's Party planned for this year!

Sandwiches, beer and milk will be provided without charge to registered dentists on Monday and Tuesday, October 7 and 8 from 11:30 a.m. to 2 p.m. The CDA Installation Luncheon, at which Dr. Fred Reid of Vancouver will become the Association's new President, will be open without charge to registered dentists and spouses. Exciting events are being planned for the ladies. An excellent scientific programme is shaping up. Plan to participate!

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Survey Co-ordinator, Dr. M.A. Rogers

ACCREDITATION PROJECT RECEIVES FUNDS

Murray McDonald, Executive Director of the Canadian Fund for Dental Education, has announced a three-year grant totalling \$42,900 from the W. K. Kellogg Foundation of Battle Creek, Michigan. The grant will be used by the Canadian Dental Association to assess the advantages of employing a full-time survey co-ordinator for the educational component of its national accreditation program.

Dr. M. A. Rogers, former Associate Dean of McGill University, Faculty of Dentistry, has accepted the position as the first survey co-ordinator. He will act as chairman of all survey teams and provide continuity of action among appointed team members.

Team members are selected by a committee representing the National Dental Examining Board, Royal College of Dentists of Canada, Association of Canadian Faculties of Dentistry, dental practitioners, and a dental registrar. Team members can include dental educators, basic science teachers, dental administrators, general educational consultants and practising dentists

who have been associated with dental education.

Accreditation surveys have been undertaken by the Canadian Dental Association's Council on Education since 1948. Undergraduate, post-graduate and graduate programs in dentistry, programs in dental hygiene, and dental assisting, and dental internships and residencies in hospitals are included.

Since accreditation programs began, 100 individual educational surveys have been completed. Thirty-seven separate programs are now serviced by the system, based on re-assessment approximately every five years for an approved program and approximately every two years for a provisionally-approved program.

In addition to re-surveys, eight new educational programs have already requested surveys in 1974. These are being organized now by Dr. Rogers.

The Canadian and American Dental Associations maintain close liaison and, as a result, accredited educational

programs in Canada and the United States enjoy reciprocal recognition.

The Canadian Fund for Dental Education is supported by voluntary donations from Canadian dentists, dental organizations, foundations, business and industry and is a charitable trust devoted to the support and improvement of Canadian dental education and research. Grants are made to faculties, teaching and research fellows, for education surveys, teaching, research and student conferences, dental auxiliary scholarships and field studies. Since 1962, the Fund has distributed a total of one-half million dollars.

The Kellogg Foundation supports educational programs in agriculture, health, and education on four continents including the United States and Canada, Latin America, Europe, and Australia. Established in 1930, it has grown to be numbered among the ten largest philanthropic organizations in the U.S. The Foundation supports a variety of programs in the education and health fields in Canada designed to improve the quality of health care.

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Banff Conference on Dental Auxiliaries

THE WINDS OF CHANGE

"One of the most significant characteristics of the Conference, to my mind has been the appropriateness of its timing, the increasing awareness that change is in the wind, that very significant modifications have already been made in other aspects of health care. As someone said, the actions of governments are likely to be dramatic. All of these are combined to make possible an open examination of the nature of dental care which would not have been possible even a year ago. It seems that everyone is prepared to accept the fact that if those working in this particular field of health care are not prepared to strive to provide leadership, then they can't be surprised if governments act on philosophy or on plain hunch rather than on a sound knowledge base."

The words are those of Dr. J. F. McCreary, co-ordinator of Health Sci-

ences, Instructional Resources Centre, University of British Columbia. He was addressing the final plenary session of the Banff Conference on Dental Auxiliaries, January 23-25.

Both Dr. McCreary and his co-speaker, Miss Joan T. Conklin, education co-ordinator, College of Dental Surgeons of British Columbia, provided the Conference with both its key-note addresses and the final summary remarks.

As Miss Conklin commented, "Where dentistry has been somewhat square, characterized by the boundaries that have for so long defined our curriculum structure and our mutual professional structures, with auxiliaries practising in private dental practice and the nature of communication at the national level, the concepts coming out of this Conference are indicative of dentistry in the round."

The success of the Conference was due to the plans of the organizing committee under Dr. E. F. Allison of Calgary as chairman and his co-workers, Dr. D. E. MacFarlane of Vancouver and Miss Marjorie Weich, past-president of the Canadian Dental Hygienists' Association.

The "think tank" type of workshop arrangements and the resulting wealth of communication among participants were planned by conference organizers: James E. Thornton, assistant professor, Faculty of Education, UBC and Mrs. J. Dale Michaels, instructor, Marketing Management, Business Management Division of the B.C. Institute of Technology.

Logistics planning was the responsibility of Miss Kay Kirker, Executive Secretary of Councils, Canadian Dental Association.

Pictured at the left is James Thornton, workshop organizer, as he introduces key-note speakers — Dr. J.F. McCreary (L) and Miss Joan Conklin (R). At the right, Mr. Thornton introduces Conference reactors (R-L) Dr. Dale Redig, Dr. Robert Evans and Dr. Eric Spohn. On the extreme left is workshop organizer, Mrs. J. Dale Michaels.



Three reactors and their opinions

Three men whose backgrounds and affiliations were outside the Canadian dental scene were invited by the conference planners to become "reactors" to the proceedings. They spent their time circulating among the workshops, listening to the plenary sessions, and participating in all the activities. What follows are excerpts from their individual reports which summarized the proceedings.

Spohn speaks

Dr. Eric Spohn, assistant to the dean for Dental Allied Health Education, University of Kentucky, identified two particular concerns, saying, "I felt there were two basic pressures I could observe acting here. It seems there is a sincere concern, by the dental professions, that many portions of this country are underserved and that is coupled with a feeling of responsibility . . . for altering the care in delivery systems, in any way that is necessary, to meet the public's needs. I think there is a sincere, honest-felt need to investigate new means because of the true needs of the public.

"However, I have also heard the threat, if you will, of government. Some have said we need to get on to meet the needs of the public because the government will come up with alternative methods if we don't. On occasion we have to remember *who the government is*, because it's really the people we serve. Even considering this latter reasoning, I am persuaded that your governments are looking to the dental profession for a means to meet the demand for care and I contend that the expansion of the role of dental auxiliaries is one approach we should use. It should be planned and developed as a hedge, if you want to use that reasoning, against government's perhaps less desirable alternatives.

"No matter what has motivated participants of this conference, I must admit that I really have been impressed with the manner in which things have been conducted and with the amount of consensus that appears to have occurred."

Evans evaluates

Dr. Robert Evans, economist, consultant to the B.C. Minister of Health, Fa-

culty of Dentistry, UBC had some pointed remarks.

"I think professionals in general and health professionals, in particular, have a self-image as unusually imbued with the public interest, that they see themselves as acting on behalf of the public in a rather special way. They regard their priorities and their values as somehow a bit superior to those of the general public. Now that is not unnecessarily wrong. I come from the City of Vancouver where we have no fluoridation. We have voted it down regularly. I have got to admit there is a lot of truth in that view point, but when you say things like 'society in general doesn't put enough value on health care, we ought to be expanding programs enormously, we ought to be carrying out educational programs, we really have to change the whole way in which resources are allocated in the economy to provide a great deal more in the way of resources for dental care' . . . you have to realize you are trying to reformulate society's priorities for it. You may be right in so doing but you have taken a perspective in which you are interpreting and moulding the public interest.

"Now finally one last point. I sort of talked about the superficial unity of interest, and the underlying diversities of interest which creates tension. There is a third strand which I think is very unusual, but I guess is standard in this sort of profession. That is the sexual one. I don't know whether its fair. I get this feeling that in this dentist/auxiliary split, which is predominantly a male/female split, there is still a sense of a certain amount of patronage on the part of the most open-minded on the dental side; and I detect, on the part of the most militant of the dental hygienists, a certain air of diffidence. I come to breakfast without a name tag.

Nobody knows me but they immediately address me as 'doctor.' It's not something you pin on dentistry. It's part of the air we breathe. You know it's part of society but it's a kind of attitude which you have to try to be personally aware of and personally sensitive to, if you are going to change."

Redig reacts

Dr. Dale Redig, dean of dentistry, University of the Pacific, had the final word.

"My overall impression of this Conference really could be very quickly stated. I have about three minutes and I'll do it in about that time. It would be a three-letter word, 'wow.' It's impossible not to relate this to my experience with this kind of thing in the United States. Were this kind of meeting held in the United States, at this point in time, the group in this room would be pretty grim-faced, attitudes would be set and the atmosphere would not be very relaxed. The profession of dentistry in the United States, at least the hierarchy, would probably be considering the same three things that are facing Mr. Nixon — resignation, impeachment or exorcism. They would probably want to exorcise you, since the devil has made you do this, obviously.

"I have been stunned by the open willingness to discuss all of the issues you have discussed, I have been a little bit concerned that you have discussed too much relative to short term, rather than one of the charges which Miss Conklin gave to you, relative to long term. I have also had some concern to the stunning opinions which are just short of revolutionary, and dentists and the people in the dental profession tend not to be revolutionaries but evolutionaries. I have some concern whether this is motivated by fears.

"My final point is that you are obviously on a course of action with education, time and funds. Through co-operation and, determination, you will reach actualization of your goals and that co-operation, determination and actualization is CDA. I think you should use CDA as your resource. Thank you very much for having us."



Frank discussions says CDNAA president

I would first of all like to express to the Canadian Dental Association and to the Committee who prepared and conducted this first Conference on Dental Auxiliaries congratulations on its success.

Most of us were impressed by the number of participants, the broad range of their interests, and the vast amount of knowledge available to the Conference. Dentists and auxiliaries engaged in frank and open discussions and mutual respect was in great evidence.

The same problems seem to face all areas in Canada, namely: need for more trained auxiliaries; utilization of auxiliaries; legislation for auxiliaries and portability.

To determine the need for more trained auxiliaries it is necessary to look at the dental needs of the Canadian public. Regional and provincial differences such as population, geography and manpower distribution necessitate regional approaches to interpreting what are essentially national solutions. Broad principles for auxiliary utilization must, of necessity, be interpreted differently in various parts of the nation.

Rising community expectations and demands for health services require a complete re-evaluation of the roles of the dental profession including the delegation of selected duties to trained, qualified members of the dental health team. Effective utilization of dental auxiliaries is the key to a successful dental health care delivery system. We, as dental nurses and assistants, felt that most participants agreed that additional duties should be allocated to present auxiliaries rather than to newly established auxiliary personnel.

We also felt most participants agreed auxiliaries were underutilized and overlegislated. It would appear that a fuller understanding and recognition by all dentists of the background and skills possessed by dental auxiliaries be a main priority in better preparing them to delegate duties and responsibilities. There seems to be a lack of education of dentists as to utilization techniques and it was felt that there could be more co-operation between institutions training auxiliaries and dental students. There should be more and better rapport between educational institutions. Health facilities could be integrated into one total health centre where all auxiliaries could be trained.

There seems to be a lack of national consensus as to licensure and Practice Acts, which is a major reason for the portability problem experienced by auxiliaries. Present Acts need reviewing to ease their restriction and ambiguity. It is important there be effective representation by auxiliaries on licensing boards. Consideration should be given to negative listing as well as serial listing of dental auxiliary functions. An acceptable national certification would seem to be a solution.

It was generally agreed that delivery of dental services should be a team concept with the dentist as the leader. Many participants seemed to favor the delineation of classification of titles and the establishment of a "ladder of educational progression." The career ladder concept promotes mobility within related yet distinct occupational areas. This system recognizes the principle of core programming technology and permits the individual to achieve maximum potential within the

confines of desire and capability. It also permits individuals to achieve greater responsibility and increased compensation through acquisition of additional knowledge and skills, but without a career change. This should promote increased retention of auxiliaries within the dental health team. It also permits an individual's re-entry into the educational system to learn additional functions and provides for upward mobility.

Our Association feels a career ladder system would eliminate the overlapping of duties performed by dental assistants and hygienists. Duties that traditionally have been performed by one auxiliary are now considered expanded functions for the other.

It was felt that continuing education is necessary to maintain competence and for upgrading. There is also a need to prepare auxiliaries currently in the work force as well as new personnel to perform expanded functions. There should also be a single minimum standard of training for both categories of personnel to ensure that quality of performance is consistent.

There appears to be a lack of communication between all associations. Some reasons given were: general apathy, the size of Canada, and a lack of good organization on the part of some associations.

I felt it was a most successful Conference and trust that some of the ideas and suggestions brought forward will be used to help improve the delivery of dental health services to more Canadians, and also provide more challenge and inspiration for all members of the dental health team.

Elizabeth E. Purchase, C.D.A.



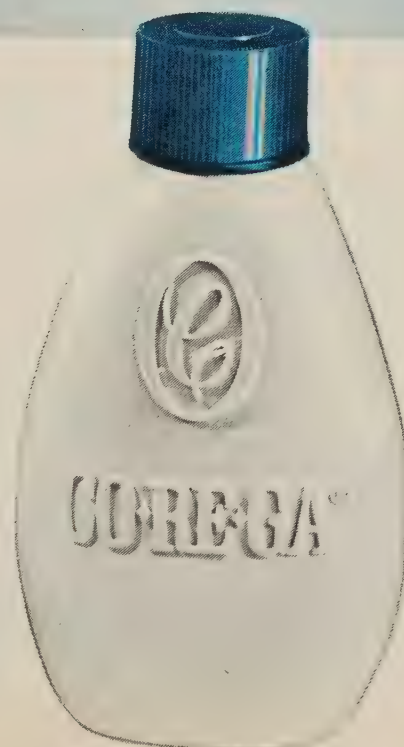
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Sherita Clark, CDHA president

Hygienist president:

Our brave new world

Motivation for organizing the CDA Conference on Dental Auxiliaries, held January 23-25 in Banff, might have been the outcome of the theory that, "If we wish to make a new world, we have the materials ready — the first one too was made out of chaos." In an effort to create some order from this confusion, representatives were summoned from educational institutions, regulatory bodies, and professional associations.

My group decided to begin by divesting ourselves of present terminology, forms of education, and systems of regulation. This gave us the freedom to set about creating a new dental auxiliary who would conform to a new set of criteria.

We could not establish standards of judgement without knowing the type of individual with whom we would be working. We agreed that they should be career oriented, of either sex, and able to meet certain standards of qualification.

Having established a basic type, we went on to consider educational criteria. A great deal of difference exists in the educational requirements of various dental auxiliaries. This situation leads to various degrees of "status" within the dental team, and makes it difficult to consider an expanding role. It would be preferable to begin the education of operating dental auxiliaries simultaneously in a program with a core year. This core year could be offered at a community college or post-secondary school. The graduate of this program might resemble the present day dental assistant with the ability to perform some basic intra-oral procedures. Beyond the core year there could be modules available for

further training in specific areas.

If we wish to attract career oriented individuals, we must build into our educational system career mobility. This could be accomplished by allowing lateral mobility within the scope of practice of the dental auxiliary, as well as establishing a career ladder which would enable an individual to progress into another area. Another aspect of career mobility involves the ability to move from one province to another. Standards of education that are established nationally and adhered to provincially would afford one national portability.

Our next area of consideration was that of utilization. There was agreement that the major problem is the lack of education regarding utilization. It was felt that this must be incorporated into the curriculum of the dental schools. Utilization involves the consideration of an expanded role for dental auxiliaries. Although there was agreement as to the need for an expanded role, there was variation in what that role should include, from a serial listing of duties on the one hand to whatever is delegated by the dentist and for which the auxiliary is formally trained on the other. My group felt, as the dentist retains ultimate responsibility, he should be responsible for the delegation of duties to the auxiliary.

Another area of concern regarding utilization is that of supervision. The discussion ranged from direct supervision, where the dentist must be present in the same office, to general supervision, where the dentist need not be present. With the advent of more group practice, clinics, and health units, the concept of direct supervision may no longer support effective utiliz-

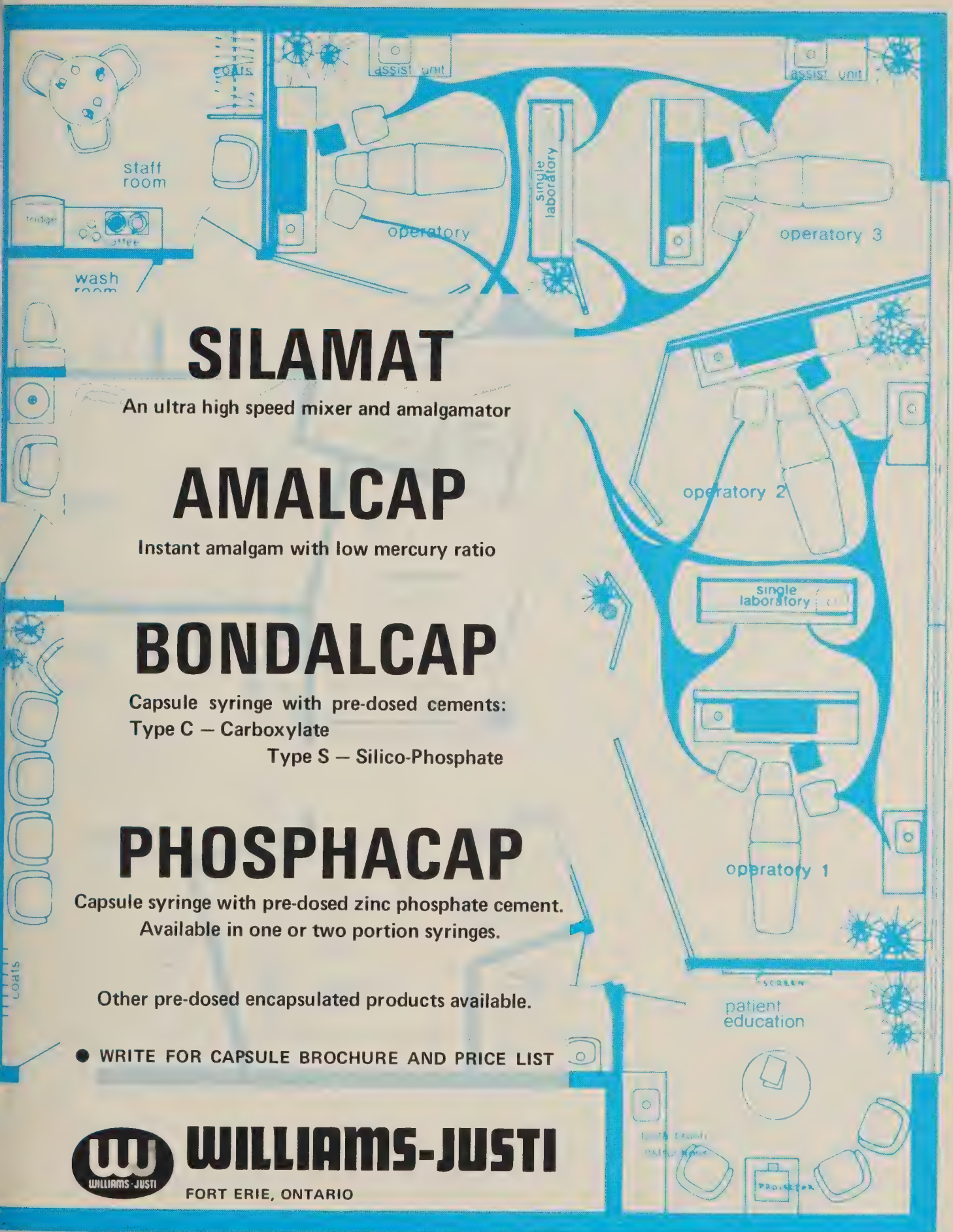
ation. With the present concern of government for health care, the subject of supervision may be purely academic.

Our final consideration was that of the system of regulation of dental auxiliaries. Since this is a concern of the provincial body, a great deal of discrepancy exists. Perhaps if all dental auxiliaries were certified, this would eliminate some of the inflexibilities that exist under the system of licensure. It might then become possible to establish national standards for regulation. We agreed that whatever system of regulation is employed, it was important to incorporate continuing proof of competence with peer review.

Having created the criteria for our ideal dental auxiliary, we then ventured out into the known world. We come face to face with our punishment. Can we assume that the same type of dental auxiliary might be operable in every province? Are we able to provide adequate leadership to government regarding systems of care? Will our new dental auxiliary be acceptable to the general public? Do we have recent surveys to establish demand versus need? Are the funds available for the education of our new auxiliary? Do we have integrated representation within the various professional associations? Where do we begin to correlate the real with the ideal?

In spite of the difficulties, I remain an optimist. I'm encouraged by the spirit of concern and cooperation that prevailed throughout the conference. If what Mark Twain said is true, "A man with a new idea is a Crank, until the idea succeeds," then there were a lot of wonderful Cranks in Banff, and I wish them all the success possible in our brave new world.

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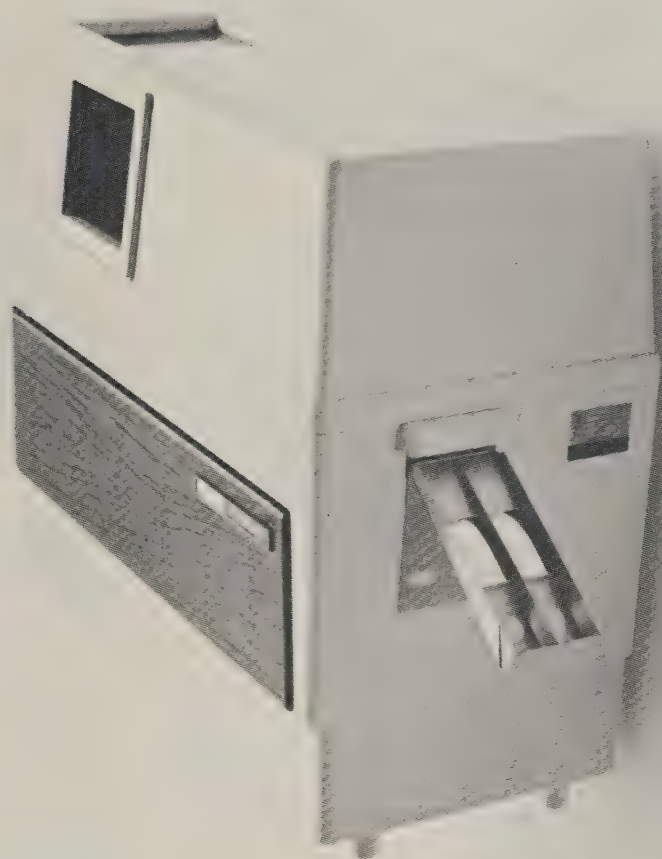


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CDA president has the last word

When you get a group of people together, all of whom have an interest in the delivery of dental health care, some intriguing things come to light. At Banff there was a mixture of everything from a dental assistant with a year's experience to a dentist who had been in practice for over forty years; from the most militant auxiliary who felt there was little in dentistry she could not be trained to do to the old-timer who was quite happy with the "status quo."

The setting and facilities at Banff were ideal. The organizing committee had done a good job of planning before the conference started and it was not long before all were on a first-name basis that made for an easy exchange of ideas. It was evident that most of the delegates realized that if the profession does not soon come up with plans to improve the dental health of our nation, governments and their bureaucrats will or, at least, will attempt to do so and the results might be catastrophic, as well as costly.

There was no question that today's

auxiliaries are capable of expanded duties. The big question was how to provide the necessary training and proper utilization.

The "team approach" to dental practice came in for a great deal of discussion. One wit described it as being like a professional hockey team where the dentist was the owner, coach and star player in all positions. There seemed to be little question that the dentist, of necessity, would remain the heart of the team with any number of auxiliaries working with him. The thought that the heart might suffer a coronary occlusion was given little consideration.

In my opening remarks, I quoted from a paper which was originally delivered in 1939 and which spoke of expanded duties for auxiliaries — we are still talking about it but doing very little. A well-known CDA Governor, in his remarks, said he was amazed at the advanced thinking of the dentists present — that not one of them exhibited the characteristics of a "fuddy-duddy" such as they were all supposed to be.

Probably the most important point stressed was that few dentists really knew how the various auxiliaries could best be utilized. If they are to become an integral part of private practice, the curriculum in our schools will have to be changed so students will be trained, not only in how to pound a good gold foil, but also in how to work with auxiliaries.

Considerable time was spent discussing the education of auxiliaries, not only in their basic education, but in how they could improve their abilities and advance to higher categories. The educators will be hard put to incorporate in a curriculum all the ideas put forward.

It was evident that most everyone left the Conference convinced the delivery of dental health care will be changed considerably in the next ten years. It will be an exciting decade in which to practise and be part of the change.

J. E. Abra

QUEBEC CONVENTION MAY 1-3



Dr. Irwin Margolese

The Quebec Dental Surgeons Association has recently appointed Dr. Irwin Margolese as general chairman of the forthcoming dental convention entitled "Les Journées Dentaires du Québec" to be held at the Queen Elizabeth Hotel, May 1, 2, and 3, 1974. Also appointed were Dr. Claude Robichaud as Associate Director and Chairman of French Scientific Program; and Dr. Clyde Covit, as Associate Director and Chairman of Publicity; Dr. Harvey

Wiener, as Chairman of English Scientific Program; Dr. Paul Belisle, as Chairman of Exhibits; Dr. William Klein, as Chairman of Table Clinics, and Dr. Denis Laflamme, immediate past president.

The theme of "Reorientation in Dentistry" has been adopted this year to familiarize general dentists with the latest techniques in modern dentistry. The collaboration of all the Federations, Associations and Societies which represent every general dentist and specialist in Quebec will ensure that the convention has a truly provincial significance.

The convention will include a symposium on operative dentistry, a seminar on periodontal prosthesis and a full-day seminar on the latest techniques of "four handed dentistry". The convention will also feature a full-day seminar for the Dental Assistant and various subjects such as medical emergencies and table clinics for the general dentist.

NEW BRUNSWICK FORMS HYGIENISTS ASSOCIATION

Twelve dental hygienists have banded together to form a constituent association of the Canadian Dental Hygienists' Association. Under the form of a society, the present elected officers include: Mrs. Janet McMullin as president and Mrs. Evelyn Morse as vice president and secretary.

Deaths

Hodgins, William John W. 62. Shawville, Que. McGill University, 1937. 25-9-73. Survived by Irene (wife); John, Peter and Stephen (sons); Lynne and Patricia (daughters).

Hougen, Otto Rudolph. 75. Vancouver. University of Oregon, 1919. 3-2-74. Survived by Violet (wife) and Derek (son).

Laberge, Guillaume. 73. Montreal. University of Montreal, 1927. 16-2-74.

Shillington, Gordon Benjamin. 63. Ottawa. University of Toronto, 1934. 14-2-74. Survived by Edith (wife), David (son), Mrs. Carol Murray (daughter).



Chief Warrant Officer J.H. Sadler (L) receives his registered dental hygienist licence from Colonel L.R. Richardson, Commandant, Canadian Forces Dental Services School, Base Borden.

BC plans dentists before denticare

The Government of the Province of British Columbia and the College of Dental Surgeons of British Columbia have announced plans for a joint research project to design a publicly-financed dental care program for children. Health Minister, Dennis Cocke, and B.C. president, Dennis Waller, shared the announcement spotlight, February 7, and both government and profession will also share the \$189,000 cost of the project. The College share is \$26,000 or approximately 13.6 per cent of the total. Completion of the project is slated for October 31.

The Minister stated he had found complete agreement among leaders of the profession that the people of B.C., especially the children, deserved the highest possible standard of dental care and that the objective must be reached at reasonable cost and as early as possible.

"I want to emphasize, however, that we face real difficulties in realizing this goal. It is not just a matter of costs — the simple fact is that, with the present number of trained personnel, no comprehensive dental service for all British Columbians can be provided at any cost," he went on to say.

The Children's Dental Health Research Project began February 1 and is now located in the same building as the College office. The 11-member task force is under the chairmanship of Professor Robert Evans, University of B.C. health economist. Project director is Dr. R. K. House, who will continue as the economic consultant to the College. Assistant project director is Dr. H. J. Hann.

Other members of the task force are Dr. D. O. Anderson, UBC Health Sciences Centre, a leading authority on health manpower; Mrs. Donna Blackhall, director, Dental Assistant Program, Malaspina College; Dr. R. N. Hicks, orthodontist; Dr. D. E. MacFarlane, chairman of the Education Committee, B.C. College; Dr. F. McCombie, director of Preventive Dentistry, B.C. Department of Health; Dr. R.E.F. Patton, pediatric dentist; Mrs. Joan Voris, supervisor, Dental Hygiene, UBC; Dr. D.J. Yeo, assistant dean, UBC Faculty of Dentistry.

Dental programs now accredited

The Canadian Dental Association recently awarded its status of approval to two courses in dental training conducted by the Canadian Forces at the CF Base in Borden, Ontario. The Force's dental hygienist and dental clinical assistant training now have equal standing with similar courses offered at civilian institutions. In announcing the accreditation, Dr. W. G. McIntosh, Executive Director of the CDA, said: "The survey team and the Council on Education commented on the excellence of the programs. I add my congratulations to theirs".

As a result of the accreditation, graduates are now eligible for registration in their respective civilian trade organizations. This increases their career opportunities upon retirement from the Forces. Among those who have taken advantage of this opportunity is Chief Warrant Officer J. H. Sadler, the first military trained technician to receive a registered dental hygienist's licence granted by the Royal College of Dental Surgeons. CWO Sadler recently took the qualifying examinations at the University of Western Ontario.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on February 28, 1974:

Guaranteed Fund \$10.718;

Fixed Income Fund \$14.407

Common Stock Fund \$31.086

Total assets (market value) of the plan were \$16,653,548.14.

The following portfolio purchases and sales occurred during the preceding month: bought, 5,676 units Classified Fund Conventional Mortgage; 3,000 shares Aluminum Company of Canada; 2,000 shares International Nickel; 4,000 shares Rio Algom Mines; \$600,000 Imperial Oil note. Sold, 7,000 shares Cominco Ltd., 15,000 shares Maclean-Hunter; \$600,000 Aluminum Company of Canada note.

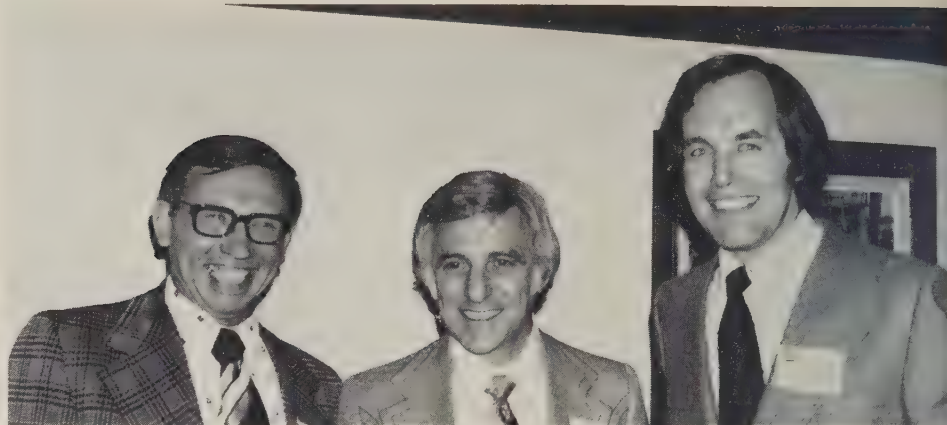
MANITOBA DENTAL ASSOCIATION SLATE

S. A. Heschuk of Dauphin was elected president of the Manitoba Dental Association at its recent annual meeting. He succeeds S. M. Claman of Winnipeg.

Other officers elected include: E. G. Derrett, Winnipeg, as vice president and registrar; P. R. Crawford, B. Goldberg and W. W. Shortill, all of Winnipeg, as directors; G. M. Nowazek of Brandon, as director.

Mrs. Nel Skoropata of Winnipeg is the auxiliary representative to the Association; and G. F. Roch is the appointee of the Manitoba Minister of Health.

A. J. Shinoff becomes the Association's representative to the Canadian Dental Association, replacing J. E. Abra who is now national president.



(R-L) John Nasedkin, chapter president; Dan Haselnus, former president AGD; and Michael Balanko, chapter secretary.

A British Columbia Chapter of the Academy of General Dentistry has been formed with John Nasedkin as president. Other officers are: secretary, Michael Balanko; treasurer, John Shintani and directors, Ken Neuman, Judd Anderson, Matt Waterman and Roman Rhabar.

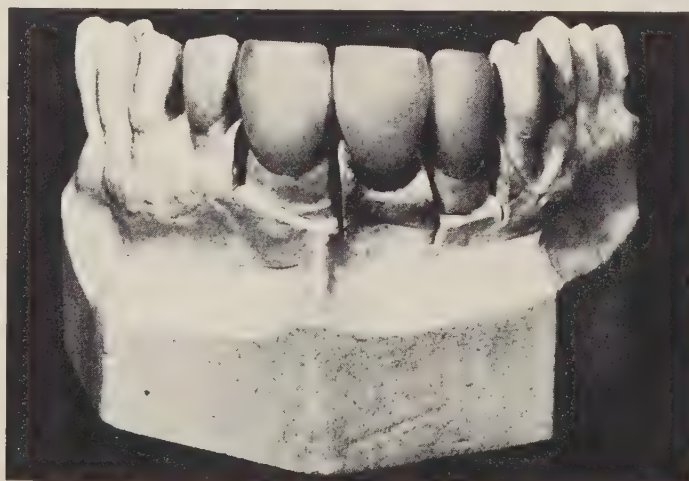
A former national president of the

AGD, Dr. Daniel Haselnus of Portland, Oregon was present to speak to the inaugural group. The Chapter will have as its main goal, the promotion of continuing dental education. They have started with a series of programs including Dr. Omer K. Reed, presented in March, and Dr. Emanuel Cheraskin, booked for mid-September.

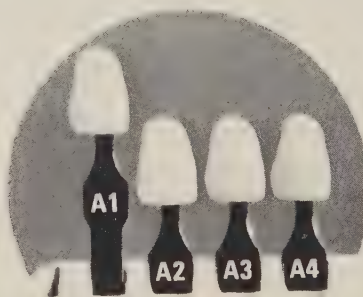
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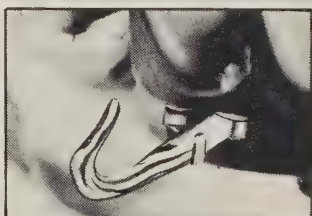
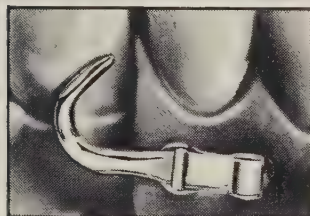
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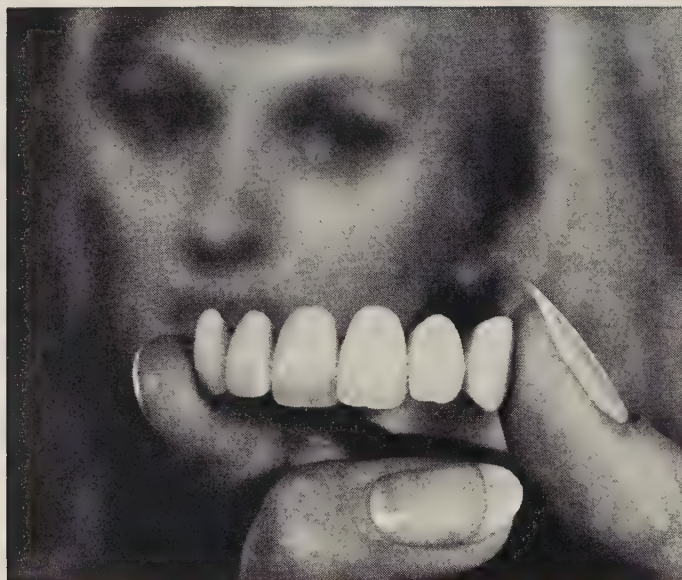
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L'Association

Le président du groupe de travail rencontre le Conseil exécutif

Les projets initiaux qui feront l'objet du groupe de travail chargé d'étudier l'organisation interne ont été établis à titre d'essai par le docteur John B. MacDonald, président du groupe de travail. Le Conseil exécutif en a été saisi, et le docteur MacDonald rencontrera maintenant les représentants provinciaux le 9 janvier.

Les représentants provinciaux mentionnés jusqu'ici comprennent les docteurs G.G. Orser, de Frédéricton, Charles Oler, de Halifax, W.J. Dwyer, de St-John's, Elgin K. Duke, de Regina, J.E.L. Mathieson, d'Edmonton, G. Barrett, de Charlottetown et W.L. Heaslip, de Toronto.

La nomination du docteur J.B. MacDonald, en qualité de président du groupe de travail, a été accueillie avec un enthousiasme chaleureux et elle a suscité de nombreux éloges. Le docteur MacDonald est actuellement directeur général de l'enseignement supérieur des universités de l'Ontario et professeur d'enseignement supérieur à l'Université de Toronto. Il fut recteur de l'Université de la Colombie britannique jusqu'en 1967.

Pour l'exécution de sa tâche, il apporte une connaissance approfondie des organismes professionnels, non seulement en dentisterie, mais aussi en autres domaines, y compris ceux des gouvernements fédéral et provinciaux. Son expérience de la direction est impeccable. Il fut en effet président du Conseil de l'Ecole supérieure d'administration de Banff et conseiller auprès de l'Agence canadienne de développement international et du Ministère d'Etat de la science.

Deux nouveaux films de l'ADC

Les congressistes qui ont participé aux assises annuelles de l'ADC, à Vancouver, ont eu l'occasion de visionner, en première, deux nouveaux films en couleur produits par le docteur G.E. Sparrow, de Toronto, pour le compte de l'ADC. "Do it Yourself Prevention" sera probablement un choix populaire pour l'éducation des patients et pour les séances destinées à des auditoires de profanes. "Oral Pain", est un film professionnel recommandé spécialement pour l'éducation permanente des dentistes.

Le film "Oral Pain" met en vedette le docteur Calvin Troneck, DDS, MS, FRCD(C), qui est rattaché à la Faculté de dentisterie de l'Université de Toronto. Il traite de l'aspect clinique de la douleur dentaire et différencie les autres causes de douleurs dans la région buccale. Le film présente tout d'abord une brève description des innovations sensorielles des dents et des gencives, et poursuit avec la description de quelques aspects généraux du phénomène de la douleur, en appuyant particulièrement sur l'irradiation de la douleur en des sites reliés, mais éloignés.

Il passe ensuite aux trois types de douleurs dentaires: la douleur pulpaire, résultant de la nécrose de la pulpe, celle de l'ostéite apicale, et finalement la douleur provoquée par un abcès parodontal, qui sont décrites et comparées en utilisant des cas cliniques réels. Les épreuves cliniques, ainsi que les traitements appliqués pour soulager la douleur sont exposés en détail.

En dernier lieu, le film expose d'autres causes de douleurs buccales faciales et en présente une brève description, afin d'attirer l'attention du clinicien sur l'importance et la difficulté d'établir un diagnostic approprié avant de commencer la thérapie.

"Oral Pain" est un film en couleurs, d'une durée de projection de 18 minutes.

"Do it Yourself Prevention", est aussi un film en couleurs, dont la durée de projection est identique. Il met en vedette le docteur Speck, DDS, Dip. Periodont. FRCD(C), professeur et directeur de la section de parodontologie à l'Université de Toronto, qui examine le rôle de la plaque et sa contribution à la maladie parodontale et à la carie dentaire. Le film démontre la technique appropriée de brossage des dents et de l'utilisation de la soie dentaire, ainsi que celle d'adjuvants tels que les "stimu-dents", les cure-dents, les comprimés révélateurs et les porte-soie dentaire.

Les copies des deux films sont en vente à l'Association dentaire canadienne. Ils sont aussi disponibles par l'entremise du Service des films de l'ADC. Pour réserver une copie, que l'on désire examiner avec l'achat, ou en vue d'une séance projetée, adressez vos demandes à Modern Picture Enquiries Inc., 1875 rue Leslie, Don Mills, Ontario.

L'ADC met à jour les statistiques sur la fluoruration

La tabulation des données pour l'année 1972 effectuée par Lloyd Bowen, chargé de la section fluoruration au Bureau d'information de l'ADC, démontre que 12,500 Canadiens de plus ont consommé de l'eau fluorée, l'an dernier. Cette augmentation porte à presque huit millions le nombre total des personnes disposant d'approvisionnements d'eau fluorée.

Malheureusement, plus de neuf millions de Canadiens qui ont l'eau courante et qui, de ce fait, pourraient bénéficier d'eau fluorée ne peuvent encore bénéficier des avantages de la fluoruration. Un peu moins de cinq millions de Canadiens ne sont pas desser-

vis par un système de distribution d'eau potable et ne consomment pas d'eau fluorée naturellement. "L'accroissement de la fluoration dépasse celui de l'accroissement de la population," déclare monsieur Bowen. Moins de la moitié (45.7 pour cent) des Canadiens qui pourraient bénéficier de la fluoration ont maintenant les avantages des traitements qui protègent leur santé dentaire."

Parmi les centres importants dont l'eau potable n'est pas encore fluorée, mais qui pourrait l'être, citons Montréal, Québec, Chicoutimi, Kitchener, Thunder Bay, St. Catherines, Regina, Calgary, Vancouver, Saint John, N.B. et St. John's, Terre-Neuve.

La position des provinces exprimée d'après le pourcentage de la population desservie par un système de distribution d'eau potable s'établit comme suit: Manitoba, 89.8; Territoires du Nord-Ouest, 84; Yukon, 79.2; Ontario, 73.3; Nouvelle-Ecosse, 66.4; I.P.E., 63.2; Saskatchewan, 57.7 et Alberta, 50.1.

Les provinces dont la fluoration se situe au dessous de la moyenne nationale sont le Nouveau-Brunswick, 24.5; Terre-Neuve, 15.1; Québec, 15 et la Colombie-Britannique, 11.5.

Le Canada

Un conseil d'agrément dans le domaine de la santé

Un conseil d'agrément dans le domaine de la santé a été proposé au cours de la réunion du 4 au 6 décembre. Le Conseil exécutif de l'ADC a approuvé, en principe, la formation d'un organisme national d'agrément, qui sera connu sous le vocable de Conseil d'agrément dans le domaine de la santé au Canada. Il exercerait un rôle consultatif et un rôle de coordination.

La formation d'un Conseil non-gouvernemental fut proposé en 1971-72 par le ministère de la Santé et du Bien-être social. Il s'ensuivit plusieurs rencontres avec le personnel

dirigeant des principaux organismes de santé et la formation d'un groupe de travail chargé d'étudier l'agrément.

Le Conseil a donné un accord de principe, à une exception près, au mandat proposé par le groupe d'étude. Il recommande que le Conseil canadien d'agrément des hôpitaux se charge de nommer cinq délégués représentant les disciplines et les programmes de santé. De son côté, le Conseil a recommandé que la dentisterie, en qualité de profession majeure du domaine de la santé, qui compte une activité considérable dans le domaine de l'agrément des programmes d'enseignement et de services, joue, comme telle, un rôle grandissant au Conseil, et ne soit pas soumise aux recommandations du Conseil canadien d'agrément des hôpitaux.



Dr. Irwin Margolese

Prochain Congrès — Les Journées dentaires du Québec

L'association des Chirugiens-dentistes du Québec a nommé le docteur Irwin Margolese directeur général du congrès Les Journées dentaires du Québec dont les assises se tiendront à l'Hôtel Reine Elizabeth les 1er, 2 et 3 mai prochain. Les autres officiers du comité directeur sont les docteurs Claude Robichaud, directeur général adjoint

et responsable du programme scientifique français; Clyde Covit, directeur général adjoint et responsable de la publicité; Harvey Wiener, responsable du programme scientifique anglais; Paul Bélisle, responsable de l'exposition commerciale; William Klein, responsable des tables cliniques; et Denis Laflamme, aviseur.

Le thème du congrès cette année sera: Réorientation en dentisterie. Tous les praticiens, tant généralistes que spécialistes, pourront donc se rallier sous ce slogan afin de se familiariser avec les plus récentes théories et techniques des soins qu'ils dispensent à la population.

Les différentes sociétés savantes locales participent à ce congrès à part entière. C'est ce qui lui donne vraiment un contexte provincial inégalé.

Les dentistes désireux de parfaire leurs connaissances y trouveront un symposium sur la dentisterie opératoire, un séminar sur la périodontie (maladies des gencives), et une journée consacrée à la "dentisterie à quatre mains". De plus, une journée sera consacrée aux assistantes et des sujets aussi variés que l'urgence médicale et des tables cliniques nombreuses compléteront le programme. Ce congrès est anxieusement attendu par tous les praticiens au printemps de chaque année.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 28 Février, 1974:

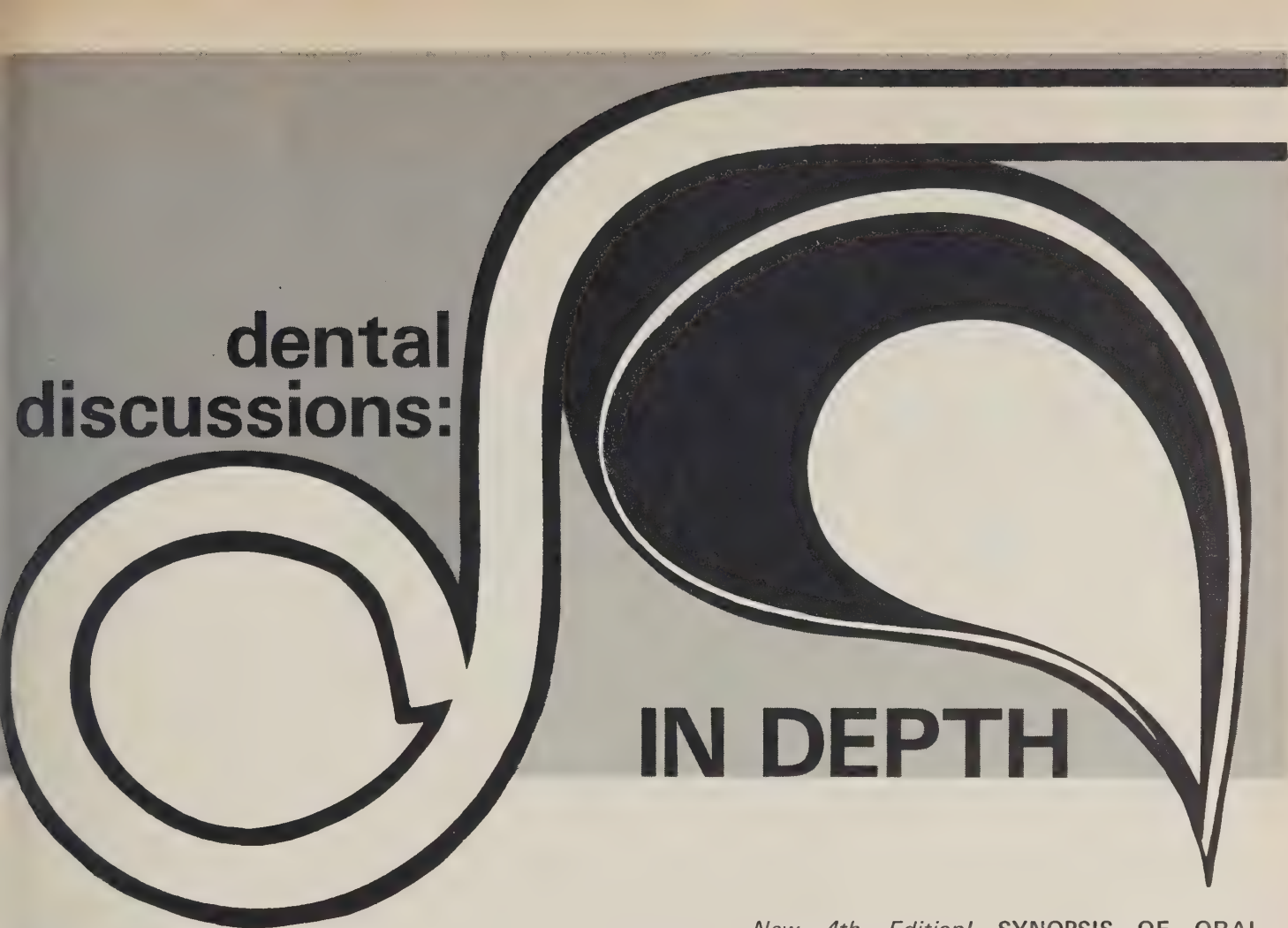
Fonds avec garantie \$10.718;

Fonds à revenu fixe \$14.407;

Fonds d'actions ordinaires \$31.086;

L'avoir total (valeur marchande) du régime se montait à \$16,653,548.14.

Au cours du mois précédent, les transactions ont été les suivantes: achat, 5,676 units Classified Fund Conventional Mortgage; 3,000 actions Aluminum Company of Canada; 2,000 actions International Nickel; 4,000 actions Rio Algom Mines; \$600,000 Imperial Oil note. Vente, 7,000 actions Cominco Ltd., 15,000 actions Maclean-Hunter; \$600,000 Aluminum Company of Canada note.



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New 4th Edition! **SYNOPSIS OF ORAL PATHOLOGY.** Designed to simplify the subject of oral pathology, this new edition provides concise and accurate coverage on the basics of oral pathology and oral diagnosis as well as the clinical aspects of oral lesions. Part I presents oral pathology according to clinical features while Part II presents causes, clinical features, roentgenologic and microscopic appearance and treatment of oral diseases. By **S. N. BHASKAR, B.D.S., D.D.S., M.S., Ph.D.** July, 1973. 614 pages plus FM I-XII, 4 7/8" x 7 5/8", 348 illustrations. Price, \$14.20.

New 2nd Edition! **ORAL MEDICINE: A Clinical Approach with Basic Science Correlation.** You'll find this reference a skilled blend of oral and total health, since the author believes each patient must be understood as a biologic entity. A valuable assistant in treating the poor-risk patient, it offers increased coverage of drug interaction (and a drug abuse chart); new material on dental implications of arteriosclerosis; and a new chapter on medical abbreviations. Recommendations for treatment are outlined. By **IRWIN WALTER SCOPP, B.S., D.D.S., F.A.C.D., F.A.P.H.A.** July, 1973. 442 pages plus FM I-XIV, 7" x 10", 537 illustrations. Price, \$23.65.

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Etudiants en médecine dentaire en faveur d'accroître leur collaboration à l'ADC

Les délégués étudiants à la cinquième Conférence dentaire canadienne des étudiants, tenue à Montréal du 14 au 17 novembre, ont voté d'accroître leur collaboration, en qualité de membres étudiants, dans leurs écoles respectives afin de s'exposer d'une façon plus continue et plus complète aux affaires de l'Association. Les délégués seront maintenant élus un an plus tôt pour leur période d'exercice, alors que les étudiants de quatrième année agiront comme délégués sortants.

Les dix écoles dentaires étaient représentées, alors que Laval, pour la première fois, y avait délégué un représentant, Monsieur Gaston Poirier. Les autres délégués comprenaient Tom Larder, de Dalhousie; Roger Gendron, de Montréal; Aron Gonshor, de McGill; Tricia Courtwright, de Western; Denis Page, de Toronto; Alan Winchar, du Manitoba; Don Povey, du Saskatchewan; Russ West, de l'Alberta et Terry McKay, de la Colombie-Britannique.

L'Université de Montréal, l'Université McGill, le Collège des chirurgiens dentistes de la province de Québec, représenté par le doyen, le docteur J.P. Lussier, et les docteurs E.R. Ambrose et D.R. Silver furent les hôtes conjoints de la Conférence.

Comme par le passé, la Conférence fut aidée financièrement par le Fonds

canadien pour l'enseignement dentaire, grâce à une subvention de Colgate-Palmolive Ltée. Monsieur George Pakozdi, de l'Université de Toronto, présida la Conférence. L'ADC était représentée par le docteur D.J. Kenny, président du Comité des membres étudiants.

La constatation que chaque étudiant vivait des problèmes communs ou comparables, au cours de leurs études, créa des échanges distinctifs entre les délégués. Le fait se concrétisa par les décisions prises par les membres, comprenant le vote unanime de recueillir des fonds afin de permettre d'adhérer à l'Association internationale des étudiants dentistes, en guise d'avantage supplémentaire à celui d'être membre de l'ADC. De plus, les étudiants proposèrent d'établir des contacts avec les Conseils étudiants, afin de pouvoir contribuer du temps et de l'argent destinés au Fond Canadien pour l'enseignement dentaire.

Les discussions engagées par les étudiants avec le docteur Roger Coulombe, du Bureau national des examens dentistes du Canada, furent très fructueuses. Les étudiants apprirent aussi "ce que les étudiants devraient savoir concernant les assurances et les placements" par la voix du docteur David Way, du Conseil de l'assurance

et des placements, et celle du docteur W.F. Jackson, du Service canadien des régimes pour les dentistes, Inc. Les étudiants réclamèrent que les représentants locaux du Service des régimes prennent contact avec les écoles dès les débuts de l'année universitaire.

Mademoiselle Tricia Courtwright, de l'Université Western, fut élue présidente de la sixième Conférence. Les autres étudiants suivants furent aussi élus: Terry MacKay, de l'Université de la Colombie-Britannique, au Conseil des Gouverneurs de l'ADC et au Bureau national des examens dentistes; Tom Larder, de l'Université de Dalhousie, membre de la Session de travail des auxiliaires à Banff, et Aron Gonshor, de l'Université McGill, au Conseil de l'enseignement de l'ADC.

La Conférence se termina par une réunion-débat sur "L'enseignement dentaire aujourd'hui et dans l'avenir". Les étudiants de deux Facultés hôtes, ainsi que des délégués des étudiants discutèrent de l'avenir de la dentisterie avec le doyen de McGill, le docteur E.R. Ambrose, le doyen de la Faculté de médecine dentaire de l'Université de Montréal, le docteur J.P. Lussier, le doyen de l'Université Western, le docteur W.J. Dunn, et le docteur J. Stamm, assistant professeur à la Faculté de l'Université McGill.

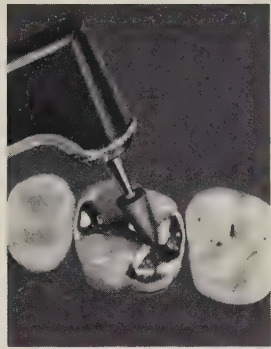
Les délégués à la cinquième Conférence comprenaient Terry McKay de la Colombie-Britannique; Roger Gendron de Montréal; Tom Larder de Dalhousie; Russell West de l'Alberta; et Aaron Gonshor de McGill.



Au premier plan est Gordon Poirier représentant de Laval; puis, Tricia Courtwright de Western et George Pakozdi de Toronto.



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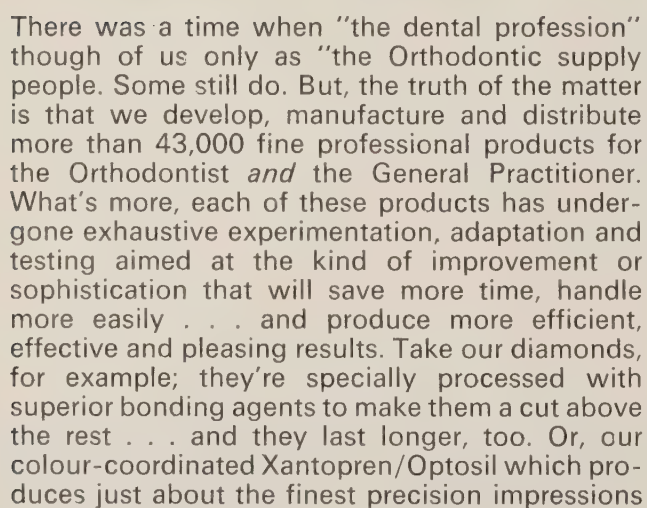


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New approach to work scheduling

by W.S. Paterson, DDS, as told to
Diane Charter, Special Features Editor

A group of dentists in White Rock, British Columbia, has developed an innovative approach to their practice which has proved highly successful.

The four partners involved in this group practice are W. S. Paterson, E. D. Lietz, A. D. MacPherson and E. J. Penner. Three associates and two dental hygienists are also on staff.

The innovation, introduced over two years ago, has resulted in a number of worthwhile benefits for dentists and patients alike. Essentially, it involves a new concept in work scheduling.

The group's offices consist of two dental suites with two dentists working in each two-chair office. One dentist works Mondays, Tuesdays and Wednesdays from 8.00 am to 5.30 pm and Thursday evenings from 6.00 to 11.00 pm. The other dentist operates Thursdays, Fridays and Saturdays from 8.00 am to 5.30 pm, plus Tuesday evenings from 6.00 to 11.00 pm. Shifts are alternated approximately every three months.

With this schedule each dentist works an average of 30 hours per week, yet the practice as a whole turns out approximately 120 hours of work during the same period. The schedule also allows for a good deal of flexibility. Holidays, conventions and study seminars can be easily accommodated and the flexible arrangements allow the office to re-

This is the second in a series of articles in which Canadian dentists describe something new or different in their way of conducting a practice. If you have a development worth writing up, the editors would be pleased to hear about it for inclusion in our section on "Innovations in dental practice".

main open 300 days per year. When vacation time comes up the working dentist in each office covers the costs of office overhead for the vacationing member of the team.

This approach to work scheduling offers three main benefits to patients:

1. They have a wider range of appointment hours through the week to choose from.
2. Evening appointments are available for those who find it difficult to get time off work.
3. Emergency situations can be dealt with more readily than in a practice with very limited hours.

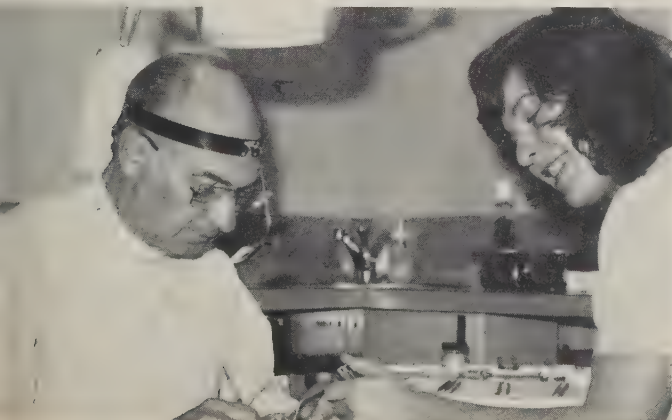
Benefits to the dentists operating this practice include:

1. A shorter work week with three-day weekends.
2. Considerable savings in overhead costs.
3. Increased holiday time.
4. Variations in work schedules.

In addition, the dentists have noted that this approach to practice helps develop a better understanding of teamwork concepts and creates a feeling of mutual dependency in their work.

The ultimate goal of the White Rock group is to allow each partner three months vacation each year, while the office remains open full time. They also feel the schedule they have developed will be particularly adaptable to their needs when the time comes to consider semi-retirement. At that time each dentist should be able to alternate one month of work with one of vacation.

Drs. A.D. MacPherson practises
four-handed dentistry



Left to right: Drs. A.D. MacPherson,
E.D. Lietz, W.S. Paterson and E.J. Penner



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The School of Dental Therapy at Fort Smith, Northwest Territories. The crest near the entrance was designed by the students.

Dental therapists in the Canadian North

Keith W. Davey, DDS, MScD, FRCD(C)

In the summer of 1972 the Department of National Health and Welfare embarked on a new concept for dental care in Canada. Basically, it is designed to train residents of the Northwest and Yukon Territories as dental therapists capable of handling the primary dental care needs of people in the Canadian Arctic and sub-Arctic.

This concept embraces two essential components: the first, to develop a school and train students in a two-year program; and the second, to organize the service aspect to ensure control of the quality and delivery of dental care by certified graduates in the field. In order to fully understand the scope of this new program we must first look at its three prime objectives. They are:

- 1) To train residents of Canada's north to administer a major portion of high quality primary dental care to be carried out under the prescription of a dentist.
- 2) To make dental care available to everyone, particularly inhabitants of small settlements, by establishing dental clinics manned by a resident dental therapist.
- 3) To establish a program of dental health education and preventive dentistry in each community.

To achieve these objectives, the entire concept is centred around three basic principles. The first requires standardization of equipment and procedures throughout the service. Quality control of the work that the therapists and the supervising dentists produce in the field is the second principle, and the third calls for portability of clinics.

Although this program — the first of its kind in North America — resembles the New Zealand plan, it has been substantially altered to meet the particular needs of the Canadian North. The School of Dental Therapy* is located in the Northwest Territories in order to be consistent in the belief that we should recruit in the North, train in the North, and work in the North. In fact, the Government of the Northwest Territories is creating an educational centre at Fort Smith with a view to establishing a community college.

The School building itself consists of 8,000 square feet made up by 20 pre-fabricated portable units. The clinic is a modification of the open concept design and contains 30 portable units taking up about one-third of the total floor space. In addition, there are three private operatories with x-ray facilities, administrative offices, a library, a seminar-teaching room and a reception area for patients.

*The School is staffed on a contract agreement between the Department of National Health and Welfare and the University of Toronto.

The teaching challenge

Part of the teaching challenge in this program concerns efforts to bring together students from very diverse social, economic and educational backgrounds into an effective team. This is proving successful and the staff of the school is confident that the graduates will continue to work together as a successful health care force.

A grade 12 level of education is required for acceptance into the program, although in special cases students exhibiting unusual potential with less than the required standard of education will be given an opportunity to compete in the program. Also, arrangements have been made with the Department of Education of the Northwest Territories to develop a pre-dental therapy upgrading program to prepare students for application to the school.

The problems of teaching this program in a northern environment are extremely varied as well as challenging. For this reason an excellent student-staff ratio must be maintained. The School is designed for a total enrolment of 30 students over the two years and the staff consists of five full-time dentists and five support staff. In addition, provisions have been made for visiting staff.

This concept strongly supports the principle that dental therapists must be identified as auxiliaries within the dental profession and therefore teaching at this school is carried out primarily by certified dentists.

The study of academic subjects has proved to be more difficult for the students than has the development of manual skills. The teaching load has been augmented by the involvement of staff in student environmental, domestic and accommoda-

tion problems that generally weave across the social structure in northern communities. Unfortunately, some students are casualties of their environment and not of a lack of ability. Twenty students enrolled in the first class in 1972. Eight of these students, representing four major cultural groups, will probably graduate in June 1974. However, in the second class of 20 students, we expect 12 to 14 will graduate in 1975.

The curriculum structure

The curriculum structure is not unlike an undergraduate dental course, with the exception that the dental therapists are taught only specific aspects of the program which will enable them to carry out the duties delegated to them. The students are not given much latitude with respect to the various methods of treatment and all equipment and procedures are standardized. This standardization will be maintained in the field operation.

Initial phases of the course are heavily slanted toward academic subjects and an understanding of the basic sciences as they might relate to the practice of dentistry. Students also begin operative procedures on mannequins within two weeks of enrolling in the program. Each student's work area consists of the necessary dental equipment, arranged and organized as it will be in the field and all pre-clinical and laboratory work, as well as clinical procedures on the mannequin are carried out in that same clinic location.

Because of the complex and diverse nature of the student body, along with the fact that few people understood exactly what the responsibilities of the dental therapist were to be, it became necessary to establish an "esprit de corps" and a

The clinic area is divided into two sections, one for first year students, the other for second year. First year students (shown below) work on mannequins.



First year student working in the laboratory preparing pucks for clinical work on the mannequins.



nse of identity early in the program. A crest was designed by the students and they were issued uniforms as quickly as possible. Considerable staff effort was spent in developing a model for the dental therapist and forming a sense of responsibility within each student concerning his role in a health team.

Teaching concepts are tailored to environmental attitudes. For example, the opinion that students work most effectively when proceeding at their own pace did not prove true in our program. Initially, students were issued an assignment ledger specifying, in sequence, the preclinical procedures to be carried out and they were encouraged to work through this assignment list at their own pace. Quality was the only criterion; slow students were not penalized.

However, a few weeks later students were asked to complete a specific assignment within a given period of time under test conditions. It was revealing that during this time test all students performed much better than they had been doing in their previous routine daily exercises. They were happier and more productive when they were all carrying out the same procedures than when they worked independently, and this included group exposure in the classroom setting. The present program is now rigidly structured with additional time set aside for small group tuition for slow students. This feeling of group participation and group identity has affected our whole teaching concept.

One major responsibility for the graduates will be to fulfil their role as dental health educators. In addition to their background course in preventive dentistry, a program in public speaking and classroom teaching techniques has been organized in co-operation with the elementary and high schools of Fort Smith. During this phase of the program students are given classroom assignments and evaluated by the school teachers. This same plan also extends into the field program in settlements during the second year.

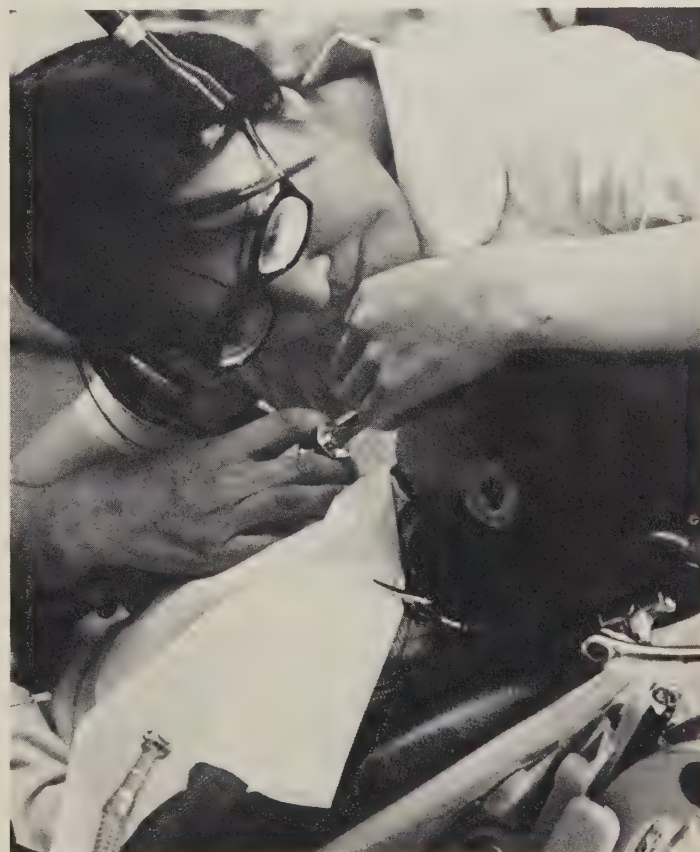
Second year students spend a minimum of one month working in an isolated field location. The first portable satellite clinic was held in Pangnirtung, NWT. This Eskimo settlement of about 100 people, located north of Frobisher Bay on Affin Island, is accessible only by air.

The clinic was operated by one instructor and four students with interpreters and assistants hired locally to enable the students to devote their full effort to treating patients away from the strict regimen of the home base. These field experiences have proved invaluable in presenting hard-core front line experiences and student output doubled during this time.



Second year student Simon Martee from Baker Lake preparing model in the small laboratory.

Betty Koc from Fort McPherson works on a patient during a satellite field clinic held at the school in Pangnirtung, NWT.



These field clinics also presented a valuable opportunity for students to continue with classroom presentations to the various elementary grade schools. When talking to pupils in the early grades, the students would work through an interpreter in presenting their lesson on dentistry and dental health.

Standardization of equipment and procedures

Standardization in all areas of the dental therapist program is an essential ingredient for success. This involves the scope and method of treatment, instrumentation, and use of equipment. Graduates must not be expected to vary from, or work beyond, the capabilities to which they have been carefully trained. Otherwise, the results would be confusion and poor standards.

Standardization permits graduates to transfer from one location to another without requiring retraining in equipment or procedures. This flexibility is desirable because it helps maintain high morale and also ties the program together across the country. Procedural and other changes may be made in the dental therapist concept but such alterations must be made throughout the total operation. The introduction of a new idea, a new instrument or a new approach will start off by being taught at the School and then changed throughout the entire field service.

The School of Dental Therapy will be the co-ordinating unit and resources centre for graduates, with standardization and quality control organized from that point. If additional supervising dentists are used they will receive an orientation period at the School to ensure they understand the concept of the dental therapist within Northern Health Services.

Professional control

Quality control is the responsibility of dentists, co-ordinated from the School of Dental Therapy, who are willing to accept and work with the therapists. Only in this way will the therapists be able to function at maximum efficiency. Dental therapists, strategically placed in selected locations, will carry out their tasks under prescription of the supervising dentists. They will be prepared to stay for a minimum of one year in a community of 500 people or more and will organize clinics to visit small surrounding settlements on a regular basis.

Except for the initial intensive exposure of the dentist/therapist team, the dentist will remain in a community only for a few days each month. During the time they are together, the dentist will monitor the work to be completed by the therapist,

examine patients charted by the therapist, and prescribe appropriate treatment plans for future work to be carried out in his absence. The supervising dentist will personally complete procedures that are beyond the therapist's competence.

Problems that arise between visits of the dentist will either be treated palliatively until professional advice is available or handled on an emergency basis. Once a settlement is under control, there should be a minimum of emergency situations.

The dental therapists are trained to complete the following procedures under prescription from, but in the absence of, the supervising dentist.

- 1) Carry out a school dental health program.
- 2) Radiograph and chart patients.
- 3) Administer local anaesthetic using the infiltration technique and the mandibular nerve block.
- 4) Place prescribed amalgam and composite resin restorations in deciduous and permanent teeth. This includes pin-supported restorations.
- 5) Perform vital pulpotomies and place preformed stainless steel crowns on deciduous teeth.
- 6) Perform uncomplicated extractions of deciduous and permanent teeth.
- 7) Take and pour impressions for study models and some prosthetic appliances that will be designed by the supervising field dental officer.
- 8) Clean teeth and apply topical fluorides.
- 9) Handle emergency dental procedures until professional advice or assistance becomes available.

Plans call for one dentist to supervise a minimum of five students, enabling him to remain in his main base for reasonable periods of time. However, the longer a field dental officer is prepared to stay in the field away from his home base, the more therapists he will be able to supervise. In addition to staff from the School of Dental Therapy in Fort Smith, the regional dental officers presently operating in Medical Services may be able to incorporate some responsibility for field supervision into their regular work schedules.

Standardization of procedures and quality control will be the ultimate responsibilities of the Fort Smith School maintained through a system of field supervisors, using criteria based on the training profile developed at the School. Establishing the patterns of standardization and field organization will be facilitated by the introduction of certified dental therapists on a gradual basis. Only eight students are expected to graduate in 1974, so no additional professional staff is anticipated for the first year of field operation.

Portable clinics

Portability of clinics has been a basic principle in designing the School and selecting equipment.

problems of communication and transportation are enormous in the Canadian North and, since most travelling between settlements is by air, weight is an important consideration when relocating clinics.

Today, it is possible to put together modern pieces of dental equipment which are light, durable and portable, and it is fortunate that each nursing station in the North is equipped with a dental chair and a compressor. We found that most folding portable dental chairs are somewhat unsatisfactory but are useful when needed. Our portable compressor weighs about 80 pounds. The remainder of the portable equipment, instruments and supplies for one month weigh approximately 300 pounds and consist of the following:

- Instrument Case. This portable dental cabinet, fully equipped with instruments and forceps as well as some supplies, weighs approximately 40 pounds.

- Supply Box. This box contains a dismantled operating stool, vapor sterilizer, and most of the supplies totalling 80 pounds.

- Unit Case. This was designed to serve two purposes. In transit it becomes a carrying box for the portable high-speed dental unit, the fibre-optic operating light, high volume suction unit, amalgamator, cold sterilizer, and some supplies. The total weight of this box is approximately 100 pounds.

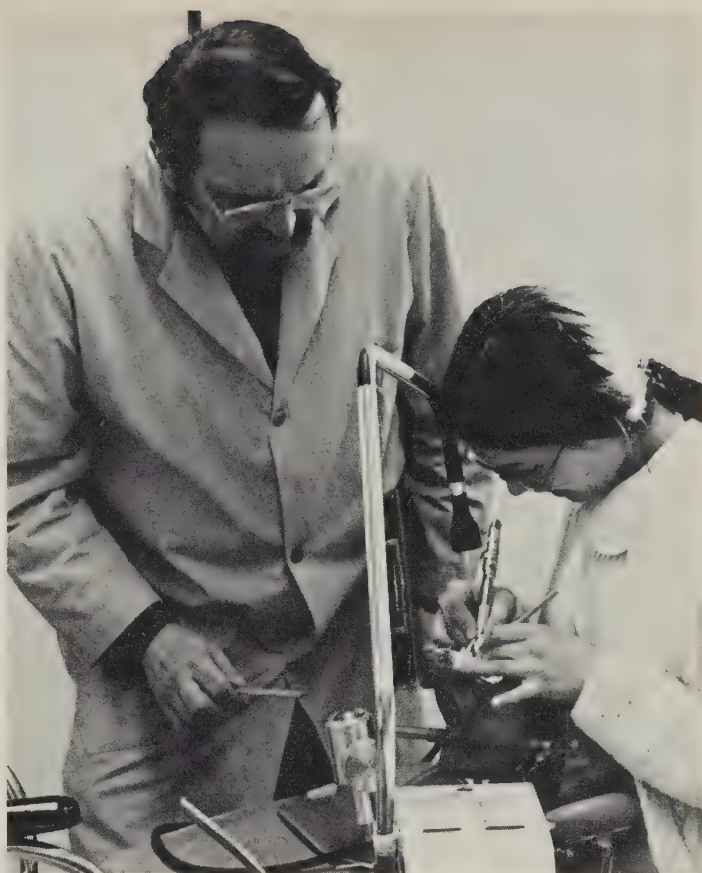
The second purpose of this case is served after the conversion from dead freight to a dental unit. Four castors are slipped into the base of the unit case and this becomes a mobile dental cabinet supporting the free-standing fibre-optic light and the control box for the air-driven high and slow speed handpieces and the air and water syringe. The high volume suction unit is bolted to the side of the mobile cabinet and connected by the waste line draining into a collection bottle inside the cabinet. The water reservoirs for the handpieces are inside the control box. In a permanent installation, water and waste lines may be connected directly to the equipment.

Originally, a mobile cart was designed for the control box, the light and the evacuator, but now the cabinet with castors serves the same purpose and reduces weight.

A program for the North

Modern technology, combined with the foresight of some dentists and health authorities in the government, has enabled the development of this program for isolated people of the Canadian North.

In the past it has been difficult to adequately staff these northern regions with dental personnel with the result that the delivery of service has been



Dr. Davey gives chairside instruction to Nancy Tupik, an Eskimo student from Baker Lake.

spasmodic and sometimes ineffective. In some instances, private practitioners working with assistants out of one location have attempted to operate by "blitzing" an area with strangers for short intensive treatment periods.

This is a poor delivery of health service and lacks the continuity that preventive dentistry requires. The concept of this dental therapist program is designed to encourage graduates to take up residence in a community and identify with the people of the settlement in order to render maximum service.

Refresher courses and updating programs will periodically be offered at Fort Smith. Providing there is appropriate central control of the dental therapist in the North, people who, in the past, have been neglected can now look forward to a comprehensive preventive and therapeutic dental program.

Dr. Davey is director, School of Dental Therapy, Medical Services, Northern Region, Health and Welfare Canada, Fort Smith, Northwest Territories. He is also a professor in paedodontics, University of Toronto.

Diane Charter, Special Features Editor, assisted in the preparation of this article for publication.



INDICATIONS: Carbocaine (brand of mepivacaine) is indicated for the production of local anesthesia for dental procedures by infiltration injection or nerve block.

CONTRAINDICATIONS: Carbocaine is contraindicated in patients with a known hypersensitivity to the amide type local anesthetics or to methylparaben which is added to the multiple dose vial solutions.

WARNINGS: RESUSCITATIVE EQUIPMENT AND DRUGS SHOULD BE IMMEDIATELY AVAILABLE WHEN ANY LOCAL ANESTHETIC IS USED.

Usage in Pregnancy: Safe use of Carbocaine has not been established with respect to adverse effects on fetal development. Careful consideration should be given to this fact before administration during pregnancy.

Solutions containing a vasoconstrictor, particularly epinephrine or norepinephrine, should be used with extreme caution in patients receiving antidepressants of the triptyline or imipramine types or MAO inhibitors

because a severe prolonged hypertension may occur.

PRECAUTIONS: The safety and effectiveness of Carbocaine depend upon proper dosage, correct technique, adequate precautions, and readiness for emergencies.

The lowest dose that results in effective anesthesia should be used to avoid high plasma levels and serious undesirable systemic side effects. Injection of repeated doses of Carbocaine may cause significant increases in blood levels with each repeated dose due to slow accumulation of the drug or its metabolites, or due to slow metabolic degradation.

Tolerance varies with the status of the patient. Debilitated, elderly patients, acutely ill patients, and children should be given reduced doses commensurate with their age and physical status.

Solutions containing a vasoconstrictor should be used cautiously in the presence of diseases which may adversely affect the patient's cardiovascular system. In persons

with known drug sensitivities or allergies Carbocaine should be used cautiously.

Serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients receiving or following the administration of chloroform, cyclopropane, trichloroethylene, or other related agents.

ADVERSE REACTIONS: Adverse reactions result from high plasma levels due to excessive dosage, rapid absorption, or inadvertent intravascular injection. Hypersensitivity, idiosyncrasy, or diminished tolerance may also be the cause of reactions. Reactions due to overdosage (high plasma levels) are systemic and involve the central nervous system and the cardiovascular system.

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ably epinephrine. Convulsions may be controlled by
se of oxygen. If convulsions persist, the intravenous
stration in small increments of an ultra short-acting
urate (i.e., thiopental, thiamylal) may be used. If these
t available, a short-acting barbiturate (secobarbital,
barbital) may be used. Intravenous barbiturates
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ergic reactions are characterized by cutaneous
s of delayed onset, or urticaria, edema, and other
estations of allergy. The detection of sensitivity by
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DOSAGE AND ADMINISTRATION: As with all local anes-
thetics the dose varies and depends upon the area to be
anesthetized, vascularity of the tissues, individual toler-
ance and the technique of anesthesia. The lowest dose
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For infiltration and block injections in the upper or
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Ever since Florey and Chain recognized the great importance of penicillin following their experiments at Oxford, great efforts were made to produce it on a large scale. The United States developed manufacturing methods so that large supplies for medical and dental use were available by the summer of 1944. During the last 30 years penicillin has remained the drug of choice for administration to patients regardless of the micro-organisms causing the infection. In the late 1940's penicillin troches could be bought across the counter in drugstores for sore throats, "sore gums" and abscesses of any type. Penicillin could be applied to skin for rashes and taken for stomach trouble. Like any new miracle drug it has been abused and this has resulted in resistant forms of bacteria and allergic reactions in a large percentage of the population wherever penicillin has been administered. Fortunately substitutes are available.

Figure 1 shows a patient who presented with a dental alveolar abscess of the maxilla. After eight days of treatment there were no significant signs of recovery from the infection and it was discovered that the micro-organisms involved were resistant to penicillin. This patient was taken off penicillin and placed on clindamycin, and within a period of days the infection began to resolve itself, most of the micro-organisms being sensitive to this antibiotic.

In this article the two main substitutes for penicillin therapy will be discussed. Unlike penicillin they have not been as indiscriminately used, therefore there have been fewer adverse reactions in comparison. This is particularly true in the case of clindamycin, which is a relatively new antibiotic.

Erythromycin

Erythromycin was isolated by McGuire et al¹ in 1952 from *Streptomyces erythreus* and it is classified as one of the macrolide antibiotics, all of which possess a macrocyclic lactone ring. It was quickly accepted as an efficient therapeutic agent to be used in the treatment of infections caused by gram positive cocci, and it remains a valuable drug which can be particularly useful in the treatment of dental infections. Various erythromycin derivatives are available for clinical use. There are three main categories: (1) Erythromycin base; (2) erythromycin stearate, a buffered salt of erythromycin; (3) erythromycin estolate, an ester of erythromycin.

Antibacterial spectrum

Erythromycin is a narrow spectrum antibiotic, being chiefly effective against the gram positive



Fig 1 A patient with dental alveolar abscess of the maxilla. After eight days of penicillin therapy no improvement was noted.

cocci and having little action against the gram negative bacteria. Most organisms which are found in the oral cavity are sensitive to erythromycin, and in dental bacteriology it may be considered to have an antibacterial spectrum similar to that of penicillin.

Acquired resistance of bacteria to erythromycin may be a problem when repeated or long courses of therapy are necessary.

Mechanism of action

Erythromycin can exert either a bacteriostatic or bactericidal effect on bacteria. The precise type of action will depend on the dosage of the antibiotic and the species of organism involved. In dental infections it appears to have a bacteriostatic action. It inhibits the growth of bacteria by interfering with protein synthesis at the ribosomes.

Absorption and excretion

The above three different preparations of erythromycin which are usually administered orally are largely absorbed in the upper part of the small intestine. Both food and gastric acid interfere with the absorption, especially the erythromycin base,

and in order to minimize this deleterious effect the antibiotic is supplied in enteric coated tablets and prescribed to be taken as much as possible on an empty stomach. Erythromycin stearate is less readily destroyed in the stomach and it dissociates in the duodenum liberating the active erythromycin which is then absorbed. Erythromycin estolate is acid stable and is absorbed more completely even in the presence of food.

Peak serum levels are reached from one to four hours after the initial dose and decline after the sixth hour. Erythromycin estolate appears to produce much higher serum levels than either the base or the stearate. A small proportion of the oral dose is excreted unchanged in the urine but the majority is concentrated in the liver and excreted in the bile. Erythromycin is widely distributed in the tissues but does not readily pass the blood-brain barrier under normal conditions. It has the advantage that all tissues except the brain have a higher antibiotic concentration than that found in the serum, and these levels are retained long after the blood levels have disappeared.

Toxicity and side effects

Erythromycin is relatively non-toxic. Nausea, vomiting and diarrhoea may occur following oral administration, but these are usually not severe. Allergic reactions, although rare, may occur in a small percentage of patients. Hepatitis is the most serious side effect which may develop following the administration of erythromycin estolate but not after other erythromycin compounds.² The jaundice is usually accompanied by fever, leucocytosis and eosinophilia. On withdrawal of the antibiotic, the symptoms will disappear but will recur with subsequent administration. Although this severe manifestation of an allergic reaction to erythromycin is extremely rare, the possibility should be kept in mind and the antibiotic withdrawn should symptoms appear. Except for this hazard of hepatotoxicity, erythromycin is a safe non-toxic drug.

Clindamycin

Lincomycin was isolated from *Streptomyces lincolnensis* in 1962.³ Its structure is unlike any other antibiotic, but it is often compared with erythromycin because of the similarities in activity.

Clindamycin (7-chloro-7-deoxylincomycin) is a chemical modification of lincomycin. Lincomycin is not recommended because of the vicious diarrhoea often produced, while clindamycin is well

tolerated. For that reason lincomycin will not be discussed here.

Antibacterial spectrum

Clindamycin is a narrow spectrum antibiotic, being chiefly active against gram positive cocci. Most strains of *Staph. pyogenes* (including penicillinase producing strains), *Strep. pyogenes* and *D. pneumoniae* are highly sensitive but it has little activity against the enterococci. The mixed bacterial flora inhabiting the oral cavity are generally sensitive to its action. *Alpha streptococci* are highly sensitive, as are many strains of *Bacteroides* and *Actinomyces* species. *Peptostreptococci*, *Veillonella* and *Fusobacterium* are less sensitive but are not considered resistant.

Clindamycin acts in a similar fashion to erythromycin by inhibiting protein synthesis within the bacterial cell. It is considered to be bactericidal in its action.

Absorption and excretion

Clindamycin is usually administered orally, but preparations are available for parenteral use. When taken orally it is rapidly absorbed from the gastrointestinal tract, and a peak serum level is reached in approximately two hours. Therapeutic levels are maintained for six to eight hours, after the initial dose. Clindamycin is not affected by the presence of food in the stomach, which is an advantage.

A small proportion of the oral dose is excreted in the urine unchanged but it is excreted mainly in the bile and faeces.

With the exception of the cerebrospinal fluid, clindamycin diffuses readily into all tissues and body fluids. One distinguishing feature is its special affinity for osseous tissue. Bone penetration occurs to a greater degree than with erythromycin or the tetracyclines.⁴

Toxicity and side effects

Gastrointestinal symptoms such as nausea and vomiting may occur; the most common complaint is diarrhoea but much less severe than with lincomycin. Jaundice has been reported, but is rare. To date, clindamycin appears to be a relatively non-toxic antibiotic, but it should be used with caution in patients with impaired renal or liver function.

Oral adult dose

Erythromycin — 250 mg four times a day
Clindamycin — 150 mg four times a day

Therapeutics

Though penicillin is still considered the drug of choice for treating dental infections there are some situations in which it cannot be administered. The most common being allergy to the drug and the increasing number of infections due to penicillin resistant organisms. Clinically this can be observed if after 48 hours of penicillin therapy there appears to be no obvious improvement (Fig. 1). It therefore necessitates the administration of other antibiotics with approximately the same spectrum. Historically erythromycin has been the drug of choice to replace penicillin in those individuals that fall into the group of patients where penicillin is contraindicated. Clinically it does not appear to be quite as fast-acting as penicillin. However this is not a measurable observation. It is effective against those organisms present in acute alveolar abscesses, periodontal abscesses, advanced alveolar abscesses with cellulitis and acute Vincent's infection, oral antro fistula and secondary infections of oral mucous membrane lesions. Considering the few side effects it should be considered as a primary antibiotic to replace penicillin, if necessary. The possibility of acquired resistance by bacteria to erythromycin which may occur during therapy must be kept in mind. The appearance of resistant bacterial strains may be a problem when a patient has previously received the antibiotic for treatment of infection elsewhere. It has no effect on yeasts and viruses.

Clindamycin is a more recent addition to the list of antibiotics available for use in the penicillin hypersensitive patient. It has a similar but narrower antibacterial spectrum than penicillin and has been shown to be efficient in the treatment of streptococcal and severe staphylococcal infections, such as osteomyelitis.

Clindamycin is a valuable antibiotic for use in dental practice, particularly in the penicillin hypersensitive patient. When there is a history of allergy to penicillin, clindamycin can be substituted for the treatment of those infections. Apical abscesses of the teeth with accompanying cellulitis of the face respond well to treatment with this drug as the infecting organisms are usually a mixture of anaerobic bacteria sensitive to its action. It is the antibiotic of choice in the treatment of systemic *Bacteroides* infections⁵ which can occur as a complication of oral or intestinal surgery and has been shown to be efficient in the treatment of cervicofacial actinomycosis.⁶ Because of the special affinity of this agent for bone, it should be considered in the treatment of osteitis and osteomyelitis. Both erythromycin and clindamycin may be considered relatively safe and useful drugs for the treatment of infections commonly encountered

in dental practice, and there is very little to choose between them. Erythromycin has been proven spirochaetocidal and therefore may be superior in the treatment of acute necrotizing ulcerative gingivitis, whereas clindamycin should be used in the more serious infections where involvement of bone is a possibility.

Prophylactic use

Erythromycin may be used in the prophylaxis of transient bacteraemia following oral surgery in those patients who have damaged or congenitally deficient cardiac valves. It is important to protect such patients from subacute bacterial endocarditis, which may result from the contamination of the blood stream.

Penicillin is the treatment of choice as a prophylactic agent, but in those patients who are hypersensitive to this antibiotic, erythromycin or clindamycin may be substituted. Khairat⁷ has shown that erythromycin gives only limited protection whereas Wiesenbaugh⁸ reported that clindamycin is equal to penicillin as an effective prophylactic agent. Strains of *alpha streptococci* are highly sensitive to its action and it has the added advantage of being effective against strains of *Bacteroides* species which are commonly isolated from post-extraction bacteraemias. deVries et al⁹ have found that clindamycin, administered in a single dose prior to surgery, will produce adequate antibiotic serum levels for the control of possible blood stream contamination during traumatic oral procedures. This has two advantages: (1) the dentist is assured that the patient has taken the drug, and (2) it is a convenience to be able to administer the drug in the office. This should be done one to two hours before surgery.

Prophylactic oral dosage

Erythromycin — 250 mg four times a day,
day before surgery
— 250 mg one hour before surgery

Erythromycin — 250 mg four times a day,
day before surgery
— 250 mg one hour before surgery
— 250 mg three times after surgery
— 250 mg four times a day for two
days after surgery
Clindamycin — 300 mg 1-2 hours prior to surgery

Erythromycin base — E-Mycin (Upjohn); Erythromycin stearate — Erythrocin (Abbott); Erythromycin estolate — Ilosone (Lilly); Clindamycin — Dalacin C (Upjohn).

For other acceptable preparations of erythromycin consult the *Compendium of Pharmaceuticals and Specialties*, 8th edition 1973, published by the Canadian Pharmaceutical Association.

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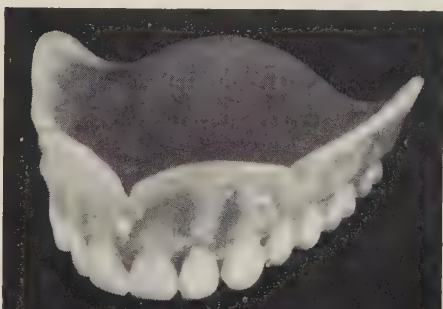


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Restoration of endodontically treated teeth

A review

S.I. Abdullah, BDS, DDS, MS
Hamdi Mohammed, DDS, MScD, PhD
Farmington, Connecticut
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The authors describe current procedures for restoring endodontically treated teeth, including sectional root canal fillings, post and core restorations for anterior and posterior teeth and sectional cores for multirooted teeth with diverging roots.

Les auteurs de cette étude décrivent les procédés appliqués aux dents sous traitement endodontique, y compris les obturations en sections du canal radiculaire, les restaurations, par le procédé du corps coulé, des dents antérieures et postérieures ainsi que le procédé utilisant les corps coulés en section pour les dents à racines multiples divergentes.

Endodontics provides an excellent contribution to the maintenance and re-establishment of oral health. But the finest endodontic treatment is of no value when it is not followed by an effective and properly selected and designed restoration. The purpose of this discussion is to review the methods of restoring such teeth.

Endodontically treated teeth become brittle after treatment due to dehydration of the dentine. Removal of caries and sound tooth structure for gaining access to the canals weakens the tooth. Accordingly, restorations to be placed in endodontically treated teeth must secure marginal adaptation to prevent recurrent caries, protect the remaining structures against fracture, function properly without traumatic occlusion, serve as a retainer when the patient requires a bridge, and fulfil aesthetic requirements.

Root canals are filled with sealer and gutta percha or silver points. When a post is to be made for a canal filled with a silver point, it must be short enough so that it will not be engaged during preparation of the canal for the post (Fig 1,2).

Anterior teeth

When there is no proximal caries, the opening to the root canal can be filled with composite or an acrylic filling. When one of the incisal edges is undermined by caries, it should be included in the preparation and restored with an inlay.¹ When the

two proximal surfaces are involved by caries, the destroyed structure is replaced by cement which is then followed by full coverage with a porcelain jacket crown or porcelain veneer crown.

When most or all of the coronal portion of a tooth has been destroyed, a post must be used with restoration. Many types of restoration are used with posts in the anterior teeth.

A post and core may be used to restore the coronal portion to a shape and size resembling a preparation for veneer or jacket crown. It is desirable for the crown to gain support and retention directly from the tooth structure by leaving a part of the shoulder uncovered adjacent to the metal core. Intact coronal structure left should be used for support and retention (Fig 3).

Extracoronary retention and root protection from fracture may be achieved by using a post and core with a collar. The collar is used in teeth that are destroyed to the gingival level (Fig 4). Periodontal surgery helps in exposing part of the root for the collar.²

A post crown with facing as one unit, has been used since the Richmond crown became popular.^{3,4}

A restoration consisting of a post and core and a crown as two separate entities offers the following advantages over a single unit: (1) The crown can be removed and a new one can be constructed in the event of gingival tissue recession or fracture of the restoration. (2) The crown can be more easily changed into a retainer for a bridge. (3) The core can be easily built and developed parallel with the other abutments. (4) Replacements and repairs can be done without involving the root or having to remove the post. (5) Retention and stability of the post and the crown can be ascertained separately and more precisely.

Types of posts

Posts employed in restorative dentistry include the following:

1. Smooth stainless steel or iridio-platinum posts: a core can be added to these by casting to the post,⁵ soldering to the post⁶ or by prefabrication. Also, a complete crown can be made to engage this type of post.

2. Serrated post: to this type of post, a core, base or crown can be added by the same means as described above.⁷

3. Cast post: this type of post is cast with coronal base or final crown attached.^{8,9}

4. Screw post: this is most commonly used with the posterior teeth. There is a possibility of splitting the root, so caution must be emphasized with its use.

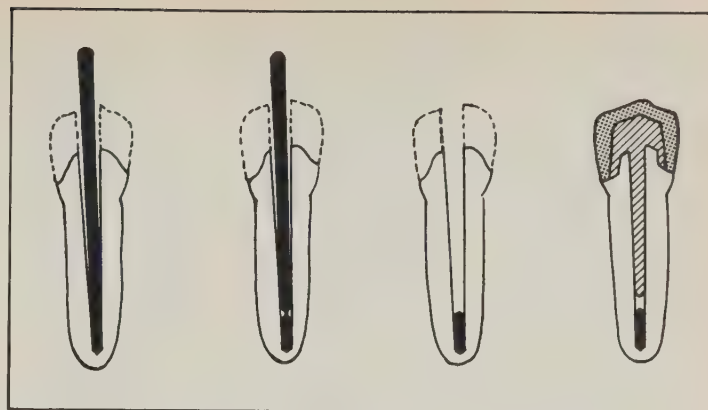


Fig 1 Step-by-step sectional root canal filling where the silver point occupies only the apical portion. The rest of the canal is filled with gutta percha and then replaced by post crown.



Fig 2 A tooth treated with a sectional root canal filling of a silver point in the apical portion and gutta percha in the remainder of the canal followed by the post crown.

Requirements of posts for anterior teeth

The post must be at least as long as the crown. Recommendations range from using a post that is 4-5 mm longer than the crown, to posts that utilize two-thirds of the canal length, and four-fifths of the canal when the root is short. If this length is used, the post must be of smaller diameter in order not to weaken the root structure.

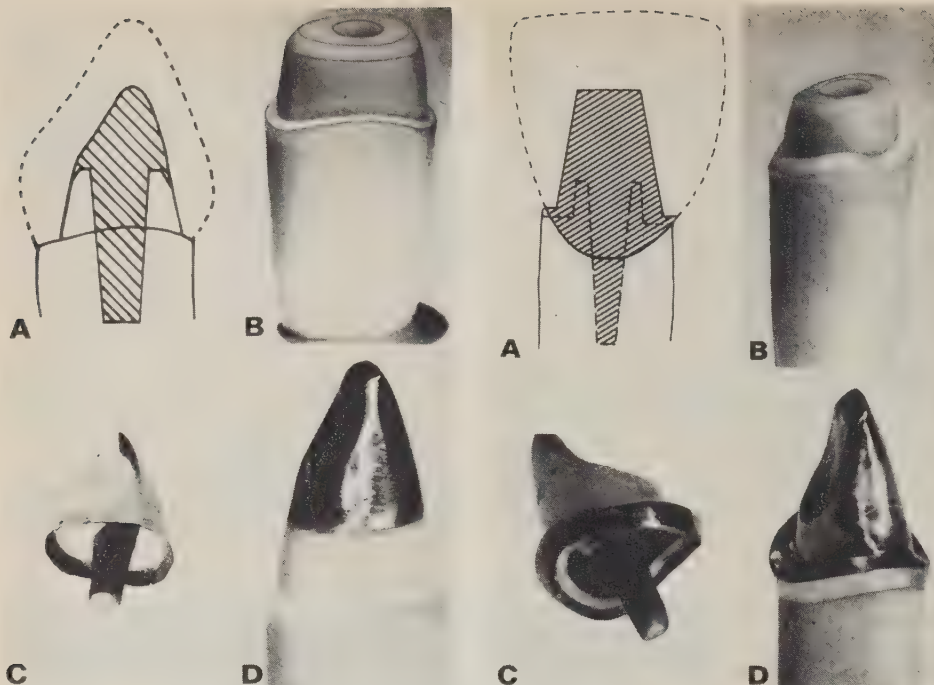


Fig 3 (Left) Post and core used to restore the missing coronal structure. The coronal portion left intact is used for retention and direct support of the crown. (From Endodontics, Ingle, J.I., Philadelphia, Lea and Febiger, 1961).

Fig 4 (Right) Post and core restoring the coronal portion of the tooth and gaining retention within the canal while a collar secures external retention and strengthens the remaining tooth structure. (From Endodontics, Ingle, J.I., Philadelphia, Lea and Febiger, 1961.)

Round posts are the most common; but some advocate oval posts to prevent rotation and enhance resistance. Charlton¹⁰ cuts a slot 3 mm long and 0.75 mm deep on the root surface for the same purpose. Others prepare the root surface as two inclined planes. Pins can also be added.

The wall of the post may be tapered occlusogingivally, but some dentists prefer posts with parallel walls for maximum retention and resistance. To prevent weakening of the root the post must be located so that equal root thickness remains about the post.

The gingival end of the post is preferably rounded or bevelled with a 45 degree angle to reduce the plunger action which prevents the cement from escaping to the sides during cementation.

Posterior teeth

Amalgam can be used to restore endodontically treated posterior teeth when one or two surfaces are involved. With more than two such surfaces, an MOD onlay is the minimum restoration recommended. The casting must extend over all of the occlusal surface to tie the buccal and lingual walls together. If the buccal wall is intact, a partial post and a three-quarter crown capping the cusps is satisfactory.¹¹ Occlusal coverage of 2 mm minimal thickness is accepted in such cases.

The techniques that were described for anterior teeth may also be applied to a single rooted posterior tooth. When the tooth is multirooted,

threaded screw posts or wire can be cemented into the root canal on which an amalgam base is built. A crown is then constructed over this base. This method can also be applied to single rooted teeth.

In addition to the previous types of restorations, cores and posts are used when the root canals can be prepared parallel. These posts may be shorter than required on teeth with single canals. When the roots diverge, a sectional core consisting of two posts and two cores, one engaging the other, may be used. A crown is constructed over these two cores, tying them together and gaining support and retention from them¹² (Fig 5,6,7).

Regardless of whether a tooth has a crown as a single restoration or abutment for a bridge, endodontic treatment may be conducted through an opening in the occlusal or lingual surface of the casting. Later the opening is filled with gold foil or an inlay. A post to which the inlay is attached can be inserted through this access (Fig 8). Post crowns, when used as abutments for long span bridges, are weak retainers and often are splinted with an adjacent tooth to form a double abutment.

Summary

Endodontics and restorative dentistry can be successfully combined when treating endodontically treated teeth. A variation of restorations may be fabricated for such teeth depending upon the condition of the remaining tooth structure and the dentist's skill and experience.

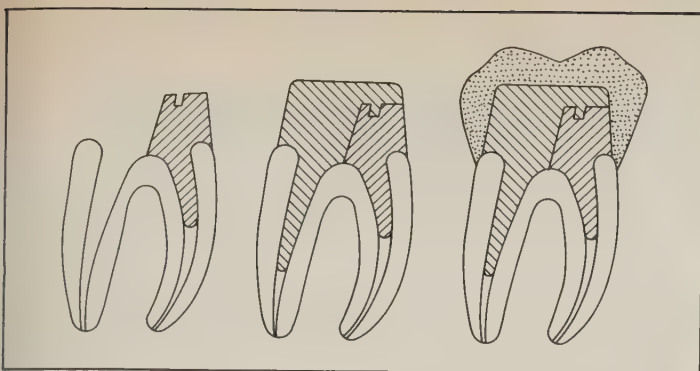


Fig 5 Schematic molar tooth with converging root canals. Two posts and cores engage each other by pins and are further tied together by the crown placed over them. The crown gains part of its support from the tooth structure.

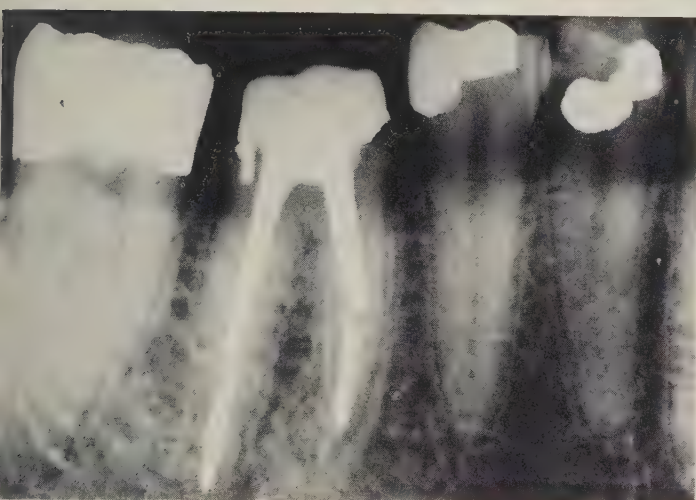


Fig 7 Radiograph of the sectional core and posts of Figure 6 after components were cemented in place.



Fig 6 Cast sectional core and posts consisting of two portions, the mesial with pins to engage the distal portion.



Fig 8 Inlay with post for an endodontically treated tooth which had been crowned previously. (From Frank, H.L. J Amer Dent Ass, 59:895, 1959).

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Dr. Thayer is professor and chairman of the Department of Fixed Prosthodontics, College of Dentistry, University of Iowa, Iowa City 52240.

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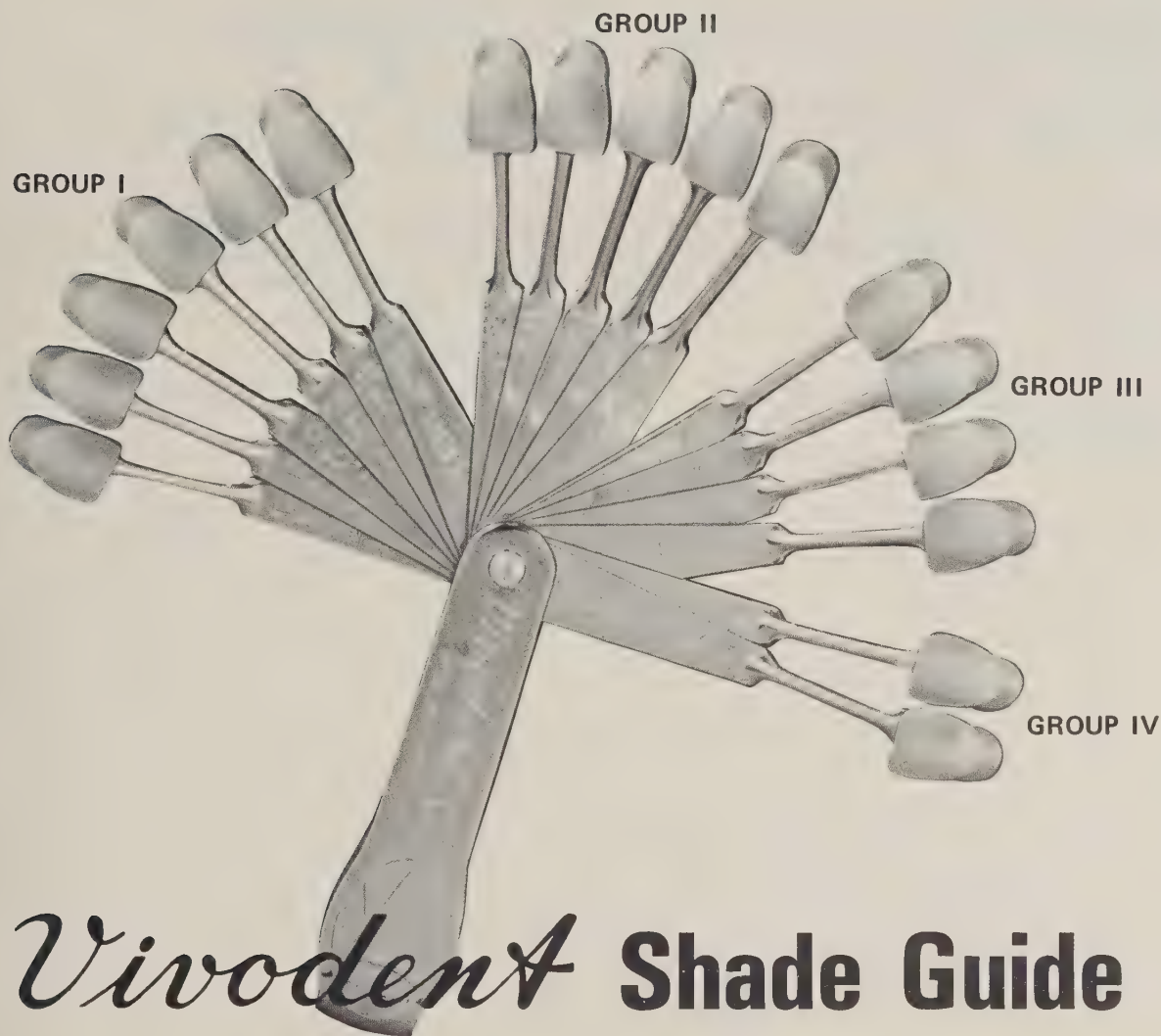
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Emergence des dents permanentes chez les enfants canadiens-français

J.G. Perreault, DDS, MS, FRCD(C)

A. Demirjian, DDS, MSD

M. Jenicek, MD PhD

Montréal

La croissance et le développement de l'enfant varient selon l'hérédité et l'environnement de chaque population. L'étude de la variabilité et de la maturation des diverses fonctions et systèmes a permis d'établir l'âge biologique de l'enfant par rapport à son âge chronologique. Les deux âges ne coïncident pas toujours et l'exactitude de l'évaluation de l'état de croissance et du développement de l'individu dépend surtout de l'évaluation de son âge biologique, établie, de préférence, d'après plusieurs critères. On exprime l'âge biologique en fonction du niveau de maturation des divers systèmes anatomo-physiologiques. Chaque système, ainsi que l'âge biologique, qui le caractérise, manifestent divers degrés respectifs d'indépendance de développement. A titre d'exemples, mentionnons les âges statural, osseux, dentaire, ceux du développement neuro-psychique et moteur ou de la capacité physique.

L'âge de l'éruption clinique des dents a été longtemps considéré comme l'un des indicateurs de l'âge biologique de l'enfant. Toutefois, cette norme a été révisée en profondeur récemment.¹ Elle est simple à déterminer, mais elle est basée sur une période de croissance relativement courte. Elle présente aussi le désavantage de subir l'influence de facteurs adjacents (forme des arcades, chevauche-

ment, ankyloses, etc). En dépit de ces inconvénients, cette norme constitue le seul moyen clinique que le dentiste peut utiliser pour déterminer l'effet de la maturation du système dentaire. L'étude détaillée de la chronologie et de la séquence de l'éruption déterminée est essentielle à la planification des mesures et des soins relatifs à l'hygiène et à la santé dentaire publiques ainsi qu'à l'orientation fondamentale des études épidémiologiques de la carie dentaire.

Récemment, sur le continent nord-américain, plusieurs études concernant l'éruption dentaire, ont été effectuées, plus particulièrement sur les populations caucasiennes d'origine anglo-saxonne ou mixte. Tout en vivant dans le même environnement, l'enfant canadien d'origine française possède des caractères génétiques différents par rapport aux autres groupes ethniques du continent nord-américain. Il n'existe aucune étude sur l'éruption dentaire chez les enfants de la province de Québec dans les publications scientifiques. De plus, aucune étude récente n'a été entreprise chez les enfants français, dont les caractères génétiques sont comparables à ceux de l'enfant canadien-français, quoique vivant dans un environnement différent.

En conséquence, cette étude a pour but:

1. de déterminer l'âge de l'éruption clinique des

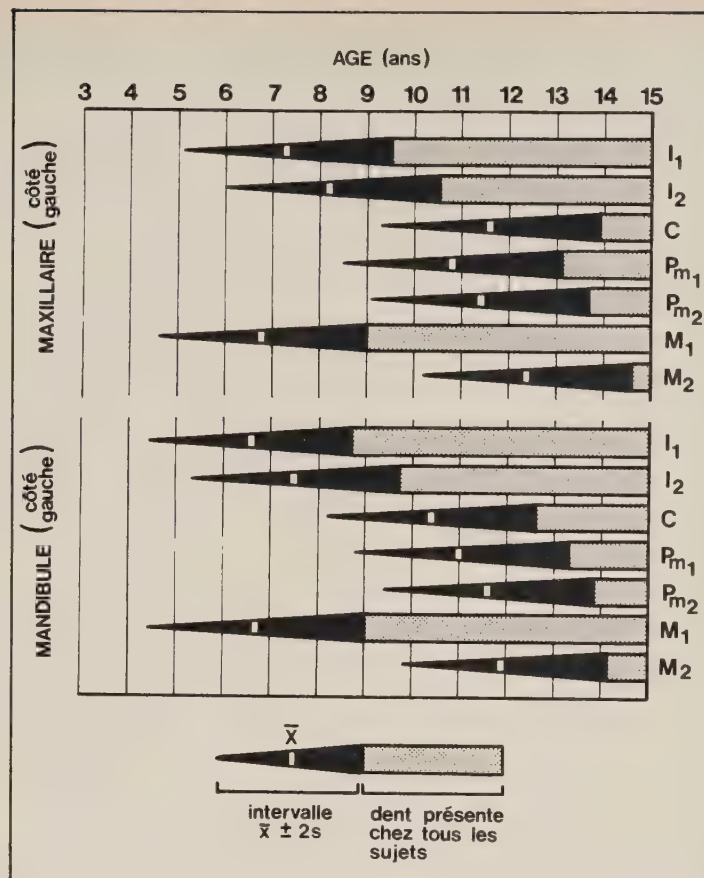
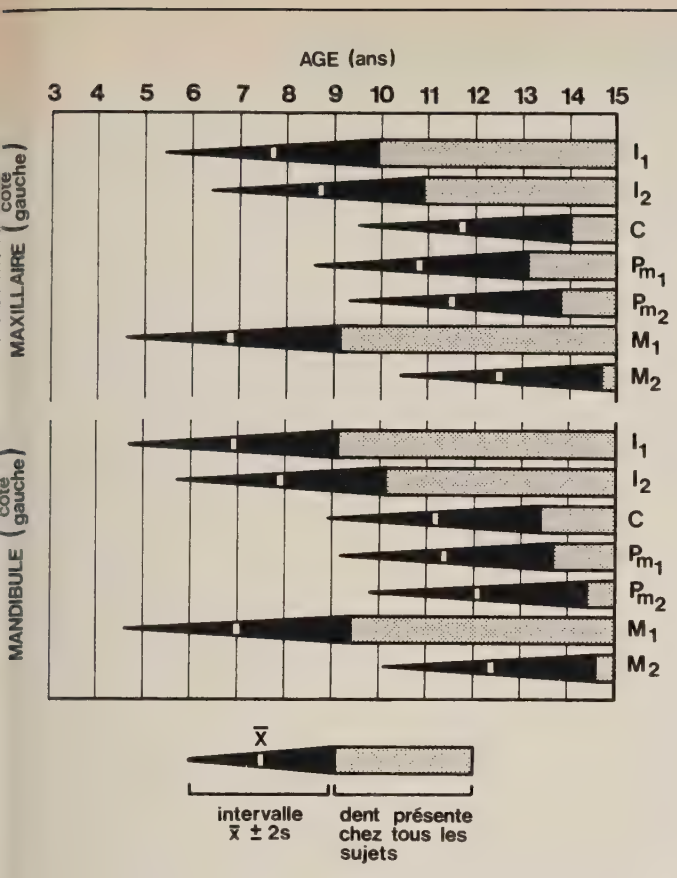


Fig 1 et 2 Eruption clinique des dents permanentes. Couronne complète. Enfants canadiens-français, Montréal.

ents permanentes chez les filles et les garçons canadiens-français;

2. de comparer cet âge avec celui des enfants canadiens d'expression anglaise de la province d'Ontario,² avec celui des enfants américains de Boston³ et de l'Iowa,⁴ et avec les données mixtes caractérisant les caucasiens de zones géographiques impérees (USA et Europe, étude mixte^{5,6});

3. de déterminer la séquence de l'éruption et de vérifier si celle-ci ne diffère pas, de façon significative, des résultats des autres études mentionnées ci-dessus.^{2,7}

Matériel et méthodes

L'échantillon utilisé pour cette étude provient du matériel longitudinal du Centre de Recherches sur la Croissance de l'Université de Montréal. Deux groupes d'enfants âgés respectivement de six et dix ans, ont été suivis de façon longitudinale au début de l'étude.^{8,9} Le premier groupe représente les âges de six à neuf ans, le deuxième, les âges de dix à treize ans (Tableau 1).

Les enfants ont été examinés à la date de leur anniversaire de naissance (l'écart, n'a jamais excédé 4 jours, précédant ou suivant cette date). Les données provenant d'un examen clinique ont été

rassemblées dans les conditions standard du cabinet dentaire. L'éruption étant un processus continu, nous avons accepté le terme "émergence" pour définir le stade de l'éruption correspondant à la percée clinique de la gencive lors de l'apparition de la dent en bouche.

Le stade de l'éruption, sujet de cette étude, a été défini comme la première trace de la dent, visible après la lyse de la gencive. Les stades postérieurs feront l'objet d'une étude subséquente.

Parmi plusieurs méthodes d'évaluation de l'éruption dentaire,⁸ nous avons choisi l'analyse de

Répartition des 1,535 enfants d'origine canadienne-française qui ont été examinés Tableau 1

Groupe	Age	Garçons	Filles	Total
1	6	108	98	206
	7	97	89	186
	8	97	91	188
	9	122	111	233
2	10	109	112	221
	11	98	92	190
	12	90	80	170
	13	76	65	141
Total		797	738	1,535

Maxillaire							
Dent	Nombre	Moyenne	Ecart-type	Erreur standard de la moyenne	X 2	d.d.l.	Ages
I ₂	103	7.33	1.11	0.05	2.246	3	6.0–10.0
I ₂	102	8.24	1.12	0.05	13.582*	4	6.0–11.0
C	74	11.11	1.12	0.06	1.149	2	10.0–13.0
Pm ₁	96	10.19	1.14	0.05	0.0552	4	8.0–13.0
Pm ₂	96	10.04	1.13	0.05	2.934	4	8.0–13.0
M ₁	102	6.22	1.14	0.06	0.506	2	6.0– 9.0
M ₂	88	12.14	1.13	0.07	5.032	1	11.0–13.0
Mandibule							
I ₁	102	6.27	1.11	0.05	0.103	2	6.0– 9.0
I ₂	103	7.42	1.11	0.05	0.409	3	6.0–10.0
C	96	10.45	1.11	0.05	8.811	3	9.0–13.0
Pm ₁	96	11.08	1.15	0.05	8.089	3	9.0–13.0
Pm ₂	96	11.61	1.16	0.04	45.820**	5	7.0–13.0
M ₁	102	6.22	1.15	0.06	1.519	2	6.0– 9.0
M ₂	88	11.72	1.11	0.07	0.577	1	11.0–13.00

*P < 0.01

**P < 0.001

X 2 = et d.d.l. — indicateur de justesse d'analyse en probits (les valeurs significatives indiquent les données ne s'appropriant pas à un calcul plus juste).

probits⁹ pour évaluer les paramètres exacts d'éruption. Les données ont été traitées à l'ordinateur Control Data CYBER 73 de l'Université de Montréal, selon le programme¹⁰ adapté au but poursuivi.

Les statistiques comparatives entre les différentes séries d'observations ont été basées sur une gamme de F- et t-tests conventionnels.¹¹ Elles ont été faites au Centre, en utilisant l'ordinateur de table Olivetti Programma 101. Cet ensemble de résultats dépasse les données requises pour la publication, mais elles sont disponibles sur demande, chez les auteurs, (comparaison de l'éruption des dents en particulier entre le côté gauche et droit, entre le maxillaire et la mandibule et les différences entre les sexes).

Pour la comparaison de l'éruption chez les enfants canadiens-français avec l'éruption chez les autres groupes ethniques au Canada et aux USA, nous avons choisi une simple forme tabellaire, comparant les paramètres à tendance centrale des autres études avec les intervalles de confiance de la moyenne (P<0.5) d'âge à l'éruption chez nos enfants.

Résultats

Chronologie de l'émergence des dents permanentes

Les résultats sont basés sur un total de 1535 examens cliniques dont 797 garçons et 738 filles.

Nous n'avons pas trouvé de différences significatives dans l'éruption entre les côtés gauche et droit des maxillaires. Nous avons alors choisi le côté gauche du maxillaire et de la mandibule pour les deux sexes séparément. Par contre, nous avons trouvé des différences significatives entre le maxillaire et la mandibule et des différences entre les sexes à tous les niveaux.

Le Tableau 2 représente les paramètres d'éruption chez les garçons au niveau du maxillaire et de la mandibule. Le Tableau 3 représente des résultats correspondants chez les filles. Les intervalles 2S (écart-type) autour de la moyenne d'âge à l'émergence ont été déterminés pour chaque dent.

Nous obtenons ainsi deux tableaux de la population normale suivie, qui représentent, d'une part, la limite inférieure correspondant à l'âge d'émergence le plus rapide d'une dent particulière (2.5 pour

Maxillaire							
Dent	Nombre	Moyenne	Ecart-type	Erreur standard de la moyenne	X ²	d.d.l.	Âges
I ₁	99	6.89	1.11	0.05	0.228	3	6.0–10.0
I ₂	99	7.80	1.10	0.05	3.611	3	6.0–10.0
C	90	10.66	1.15	0.05	45.103*	5	7.0–13.0
Pm ₁	90	10.08	1.16	0.05	4.122	5	7.0–13.0
Pm ₂	90	10.81	1.16	0.05	7.491	5	7.0–13.0
M ₁	96	6.22	1.14	0.06	1.632	2	6.0– 9.0
M ₂	78	12.01	1.13	0.07	0.405	1	11.0–13.0
Mandibule							
I ₁	96	5.98	1.12	0.06	1.692	2	6.0– 9.0
I ₂	99	7.07	1.12	0.05	2.992	3	6.0–10.00
C	90	9.62	1.11	0.05	0.605	4	8.0–13.0
Pm ₁	90	10.44	1.15	0.05	10.046	5	7.0–13.0
Pm ₂	90	11.18	1.17	0.05	34.881*	5	7.0–13.0
M ₁	96	5.95	1.16	0.06	0.818	2	6.0– 9.0
M ₂	78	11.32	1.11	0.07	0.910	1	11.0–13.00

*P<0.001

ent des sujets examinés) et, d'autre part, la limite supérieure correspondant à l'âge d'émergence le plus lent (cette émergence devrait être accomplie chez 95 pour cent de la population). Il faudrait considérer comme un problème particulier l'émergence en dehors de cet intervalle. Nous avons résumé les résultats sous une forme simple afin qu'ils puissent servir en clinique. La figure 1 est adoptée de Hurme^{5,6} avec les modifications suivantes: la période de l'éruption typique représente la moyenne de l'éruption pour une dent donnée, plus ou moins un écart-type. Cette période englobe 68 pour cent des enfants montréalais. Tandis que les périodes de l'éruption précoce et tardive représentent plus ou moins deux écarts type, en d'autres mots, 95 pour cent de la population. Les chiffres entre les lignes du graphique représentent la chronologie de l'éruption chez les filles, ceux de droites l'éruption chez les garçons. Exemple: si l'éruption de l'incisive centrale supérieure chez une fille arrive à l'âge de sept ans, six mois, elle peut être considérée comme typique, parce qu'elle se situe entre cinq ans, neuf mois et huit ans. Si l'éruption de la même dent sur une autre fille arrive à

l'âge de huit ans, six mois, elle est considérée comme tardive; la patiente devra alors être suivie de près. Mais si au contraire la dent fait éruption à l'âge de neuf ans six mois, elle devra recevoir une attention spéciale et les causes de ce retard devront être examinées. Ces résultats sont illustrés sous formes graphiques (Figures 2 et 3) pour les garçons et les filles.

Comparaisons des âges d'émergence avec d'autres études

Nous avons comparé les données d'émergence des dents chez nos enfants avec celles des autres études nord-américaines. Toutefois considérant que la compilation des données des diverses études présentait des complexités variables et qu'il nous arriva même parfois de n'avoir à notre disposition que les moyennes et les médianes pour établir des comparaisons, nous avons choisi de présenter ces données sous forme de tableaux simples concernant respectivement le maxillaire et la mandibule des garçons et des filles (Tableau 4). Les âges moyens d'émergence, cités dans d'autres études,

Comparaison des âges moyens d'éruption clinique des dents permanentes dans diverses études nord-américaines

Tableau 4

Maxillaire (côté gauche)

Dent	Garçons				Filles		
	Canada Montréal 1972	Canada Peel 1950	USA Europe 1949	USA Iowa 1962	Canada Montréal 1972	Canada Peel 1950	USA Europe 1949
I ₁	7.23– 7.43	7.2	7.47	7.0	6.79– 6.99	6.5	7.20
I ₂	8.15– 8.33	8.3	8.67	8.1	7.70– 7.90	8.0	8.20
C	11.00–11.22	11.4	11.69	11.2	10.57–10.75	10.6	10.98
Pm ₁	10.10–10.28	10.5	10.40	10.5	10.00–10.17	10.1	10.03
Pm ₂	9.95–10.13	11.3	11.18	11.4	10.71–10.90	11.2	10.88
M ₁	6.11– 6.33	6.1	6.40	6.2	6.11– 6.33	5.4	6.22
M ₂	12.00–12.28	12.3	12.68	11.9	11.87–12.15	12.3	12.27

Mandibule (côté gauche)

I ₁	6.16– 6.38	6.1	6.54	6.0	5.87– 6.09	5.5	6.26
I ₂	7.32– 7.52	7.3	7.70	7.2	6.97– 7.17	6.9	7.34
C	10.35–10.55	10.7	10.79	10.5	9.52– 9.71	9.6	9.86
Pm ₁	10.98–11.18	10.8	10.82	10.6	10.35–10.53	10.2	10.18
Pm ₂	11.52–11.70	11.7	11.47	11.4	11.09–11.27	11.1	10.89
M ₁	6.11– 6.33	6.2	6.21	6.1	5.83– 6.07	5.8	5.94
M ₂	11.59–11.85	12.0	12.12	11.5	11.17–11.46	11.5	11.66

L'intervalle de confiance de la moyenne ($P < 0.05$) pour chaque dent particulière dans l'étude de Montréal est comparée avec les paramètres de position centrale d'éruption clinique dans les autres études nord-américaines récentes.

Comparaison de l'éruption clinique des dents permanentes chez les garçons canadiens-français (Centre de Recherches sur la Croissance, Montréal) et américains (Forsyth Dental Infirmary for Children, Boston)

Tableau 5

Mandibule (côté gauche)

Dent	Montreal (1972)			Boston (1962)			F-test	t-test
	Nombre	Moyenne	Ecart-type	Nombre	Moyenne	Ecart-type		
I ₁	102	6.27	1.11	41	6.45	0.59	3.54**	1.25
I ₂	103	7.42	1.11	52	7.37	0.72	2.38**	0.34
C	96	10.45	1.11	50	10.91	1.18	1.13	2.31*
Pm ₁	96	11.08	1.15	51	10.60	1.14	1.02	2.40**
Pm ₂	96	11.61	1.16	50	11.04	1.13	1.05	2.83**
M ₁	102	6.22	1.15	30	6.35	0.69	2.78**	0.76
M ₂	88	11.72	1.11	58	11.96	1.16	1.09	1.25

Maxillaire (côté gauche)

I ₁	103	7.33	1.11	50	7.42	0.73	2.31**	0.60
I ₂	102	8.24	1.12	52	8.52	0.84	1.78**	1.73

* $P < 0.05$

** $P < 0.01$

Mandibule (côté gauche)								
Dent	Montréal (1972)			Boston (1962)			F-test	T-test
	Nombre	Moyenne	Ecart-type	Nombre	Moyenne	Ecart-type		
I ₁	96	5.98	1.12	44	6.00	0.57	3.86**	0.14
I ₂	99	7.07	1.12	50	7.05	0.59	3.60**	0.14
C	90	9.62	1.11	52	9.87	0.82	1.83**	0.30
Pm ₁	90	10.44	1.15	52	10.13	1.08	1.13	1.57
Pm ₂	90	11.18	1.17	48	10.71	1.39	1.41	2.09*
M ₁	96	5.95	1.16	35	6.25	0.80	2.10**	1.65
M ₂	78	11.32	1.11	57	11.19	0.88	1.59*	0.75

Maxillaire (côté gauche)								
I ₁	99	6.89	1.11	50	7.03	0.82	1.83**	0.86
I ₂	99	7.80	1.10	52	7.84	0.72	2.33**	0.27

*P < 0.05
**P < 0.01

Comparaison de la séquence d'éruption clinique des dents permanentes. Etudes nord-américaines.

Tableau 7

Maxillaire (côté gauche)														
	Garçons							Filles						
Montréal (1972)	M ₁	I ₁	I ₂	Pm ₂	Pm ₁	C	M ₂	M ₁	I ₁	I ₂	Pm ₁	C	Pm ₂	M ₂
Canada (Peel – 1950)	M ₁	I ₁	I ₂	Pm ₁	Pm ₂	C	M ₂	M ₁	I ₁	I ₂	Pm ₁	C	Pm ₂	M ₂
Canada (Toronto – 1953)	M ₁	I ₁	I ₂	Pm ₁	Pm ₂	C	M ₂	M ₁	I ₁	I ₂	Pm ₁	Pm ₂	C	M ₂
USA – Europe (mixte – 1949)	M ₁	I ₁	I ₂	Pm ₁	Pm ₂	C	M ₂	M ₁	I ₁	I ₂	Pm ₁	Pm ₂	C	M ₂
USA (Iowa – 1962)	M ₁	I ₁	I ₂	Pm ₁	C	Pm ₂	M ₂							
Mandibule (côté gauche)														
Montréal (1972)	M ₁	I ₁	I ₂	C	Pm ₁	Pm ₂	M ₂	M ₁	I ₁	I ₂	C	Pm ₁	Pm ₂	M ₂
Canada (Peel – 1950)	I ₁	M ₁	I ₂	C	Pm ₁	Pm ₂	M ₂	I ₁	M ₁	I ₂	C	Pm ₁	Pm ₂	M ₂
Canada (Toronto – 1953)	M ₁	I ₁	I ₂	C	Pm ₁	Pm ₂	M ₂	M ₁	I ₁	I ₂	C	Pm ₁	Pm ₂	M ₂
USA – Europe (mixte – 1949)	M ₁	I ₁	I ₂	C	Pm ₁	Pm ₂	M ₂	M ₁	I ₁	I ₂	C	Pm ₁	Pm ₂	M ₂
USA (Iowa – 1962)	I ₁	M ₁	I ₂	C	Pm ₁	Pm ₂	M ₂							

L'étude de Toronto représente la séquence d'éruption commune pour les deux sexes. Toutes les autres études mentionnées représentent les séquences pour chaque sexe séparément.

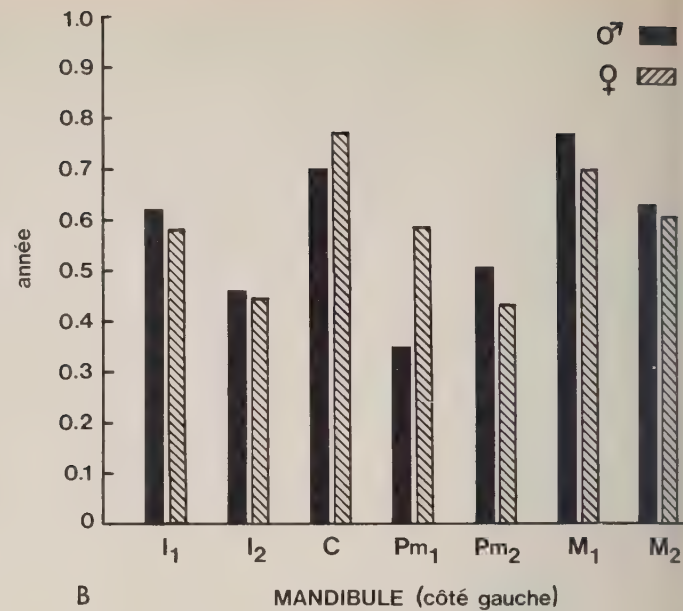
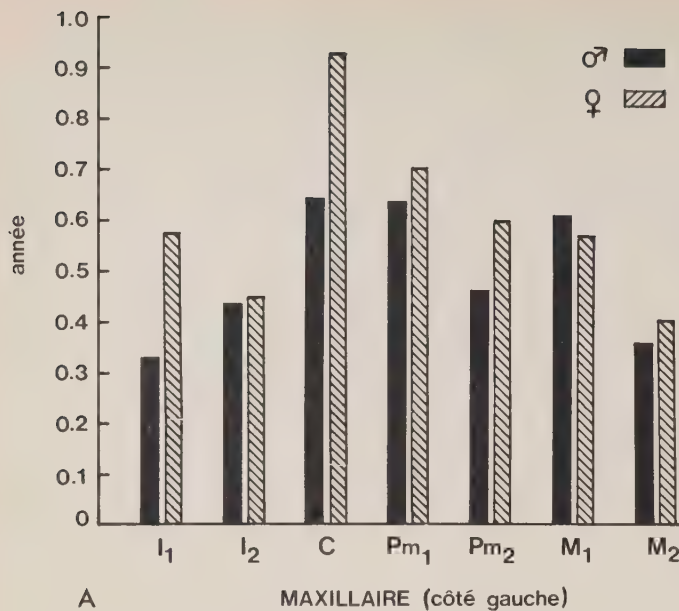


Fig 3a et 3b Estimation du temps requis pour le passage de la percée de la gencive jusqu'à couronne complète pour chaque dent. Le temps estimé représente la différence entre les âges moyens d'éruption clinique et couronne complète selon l'analyse en probit.

sont comparés avec l'intervalle de confiance ($P < 0.05$) de la moyenne d'âge à l'éruption.

Nous avons effectué une comparaison plus détaillée avec l'étude de Boston (Forsyth Dental Infirmary study³). Le résumé des résultats apparaît dans les Tableaux 5 et 6.

Séquence d'éruption

La séquence d'éruption a été déterminée à l'aide des Tableaux 2 et 3 et des Figures 2 et 3.

La séquence d'éruption est représentée de façon comparative dans le Tableau 7. (D'autres études nord-américaines, revues par Lo et Moyers,⁷ permettent une comparaison plus étendue).

Au niveau de la mandibule, l'éruption de la M₁ et de la I₁ se produit en même temps (la différence entre les âges moyens d'éruption n'est pas significative). Ces deux dents sont interchangeables pour établir la séquence d'éruption. On notera des différences au niveau des canines et des prémolaires, où la séquence est donnée en fonction des âges moyens d'éruption qui diffèrent de façon significative pour chaque dent mentionnée.

Discussion

La comparaison de nos résultats avec ceux des autres études doit être effectuée en tenant compte des différentes définitions de l'éruption (émergence) clinique. Le matériel utilisé pour établir les comparaisons provient d'études longitudinales pures ou mixtes, ou d'études transversales, ce qui

rend la comparaison plus délicate. Les méthodes d'évaluation biométrique du phénomène suivi se sont développées considérablement depuis quelques années. En dépit des circonstances mentionnées, nous avons tenté de présenter nos résultats de façon aussi complète que possible. Les âges moyens à l'émergence diffèrent pour quelques dents, mais comparés à l'étude de Boston, la variabilité des données de notre étude apparaît plus grande dans la majorité des cas. Il faut probablement attribuer la cause de ces variations aux différences de l'échantillonnage et de la méthodologie.

Parmi les intervalles d'âge observés à l'éruption, on retrouve pour certaines dents (ex: I₁ et M₁) une limite inférieure qui se situe à quatre ans et plus (On retrouve aussi une observation identique dans l'étude de Boston³). Comme il s'agit d'une prédiction mathématique des premiers cas normaux, il faut prendre en considération que l'âge typique se situe au niveau de la moyenne citée. L'expérience clinique des autres confirme que cette évaluation ne précède que de quelques mois les observations cliniques (subjectives) chez les enfants dans la pratique courante.

La comparaison de la séquence d'éruption peut être faite de façon globale. Les séquences sont parfois présentées selon la suite des valeurs absolues des âges moyens trouvés, mais ces moyennes ne sont pas nécessairement statistiquement différentes, et l'on peut présumer que la séquence de certains groupes de dents peut être interchangeable (variabilité individuelle).

Fondamentalement, les conclusions de cette étude sont tirées d'un échantillon recruté uniquement dans la population métropolitaine canadienne-française, homogène du point de vue génétique et sans différences significatives du point de vue de l'environnement.

L'effectif des sujets, examinés à chaque année de l'âge chronologique, semble suffisant pour justifier une description adéquate du phénomène suivi. L'étude présente plutôt le caractère d'une étude longitudinale mixte, étant donné les deux groupes initiaux et le nombre additionnel majeur de nouveaux venus dans le premier groupe à l'âge de neuf ans.

Conclusion

Nous avons présenté le premier tableau d'émergence des dents permanentes chez les enfants canadiens-français de Montréal.

L'âge de l'éruption diffère pour plusieurs dents de celui des autres populations nord-américaines. La séquence d'éruption varie également. Les différences majeures dans la séquence ont été observées pour les dents C, Pm₁ et Pm₂.

L'âge de l'éruption clinique, que l'on considère comme un indice de maturité, présente plusieurs inconvénients quand il s'agit de déterminer l'âge biologique dentaire. Mentionnons, entre autres, que la courte période qui s'écoule entre l'apparition de la première et de la dernière dent présente un désavantage. La formation dentaire, déterminée radiologiquement, serait à notre avis un moyen plus précis d'évaluer l'âge dentaire. En conséquence, une comparaison de l'éruption clinique et de la formation dentaire s'impose dans un avenir prochain.

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BRITISH COLUMBIA — Vancouver. Deluxe two chair office with lab, dark room, washroom and nurse's office. Share waiting room 17 x 20 with family Physician. Former dentist had overflow practice. New building across the street. Rent \$260 includes covered garage, cleaning and gas. Dentist pays electricity and phone bills only. Apply Dr. H. Dumont, 2185 West 4th Avenue, Vancouver 9, B.C. Phone 733-3010 day or night.

BRITISH COLUMBIA — Kamloops. Practice for sale. Large office, 1000 sq. ft., including waiting room, private office, dark room, lab and three operatories, one equipped. In residential area of fast expanding city of British Columbia's southern interior. Ideal for one or two dentists. Good area for both summer and winter sports. Reply CDA Box No. 1324.

BRITISH COLUMBIA — North Vancouver. Fully equipped, sit down, preventive practice. All equipment is two years old. The entire office carpeted, air-conditioned and very tastefully decorated. Both operatories piped with nitrous-oxide, stereo. Patient education room is fitted with built in slide screen, sink, projector etc. This practice is busy and growing rapidly. Ideal for recent graduate. Reply CDA Box No. 1365.

BRITISH COLUMBIA — Ocean Park. Swim between appointments. Dental clinic adjoining modern home and pool in Ocean Park, British Columbia. 2 operatories, waiting room, receptionist area, bath-room, dark room. Only dental clinic in Ocean Park. Established 6 years. Located on .8 acres of valuable commercial property with excellent possibility of rezoning to high rise; next to shopping center and 1/2 hour drive from Vancouver on freeway. Rambling single floor 2 bedroom house. 20 x 40 heated swimming pool enclosed by landscaped gardens of mature trees and shrubs, sauna, garage and greenhouse. \$200,000 firm. Phone Mr. Stewart 1-604-531-1100 or write 1676 128 Street, Ocean Park, B.C. V4A 3V3.

BRITISH COLUMBIA — Campbell River: Vancouver Island. Located in the heart of British Columbia's evergreen playground — fishing, camping, boating, skiing, you name it. One of British Columbia's fastest growing communities; modern town of 15,000 serving approximately 35,000. Excellent opportunity to associate with two other dentists and remain in private practice, sharing common waiting room, lab and receptionists in a new architecturally designed air-conditioned building scheduled for completion Summer 1974. Reply CDA Box No. 1386.

BRITISH COLUMBIA — Nelson. Well established practice, two operatories fully equipped, adequate area, low rental, room for expansion. Can be purchased with little capital outlay and moderate monthly payments. Modern small city, exceptional climate, educational and recreational facilities. Modern hospital with fully equipped dental section. Reply CDA Box No. 1383.

NOVA SCOTIA — Halifax. In beautiful Nova Scotia — Halifax by the sea. An established and still growing pedo practice (or switch to general practice, if you prefer). Relaxed group of 4 dentists in the building (owned equally by all four) and located near University, hospitals and other professional offices. Modern equipment — good staff including hygienists — preventive oriented cash practice. Very easy terms — lease, buy or both — to someone who wants a good permanent career in Nova Scotia. Please write to: Dr. R. Epstein, 6088 Coburg Road, Halifax, Nova Scotia.

ONTARIO — West End Toronto. Fully equipped and furnished dental office for rent in modern medical clinic building, consisting of 4 operatories, nurse/receptionist station, private office and large waiting room. Central unit for gas analgesia fitted. Building fully air-conditioned, janitorial services provided, ample parking. Reply CDA Box No. 1227.

ONTARIO — Essex. Practice for sale or Associate Wanted. Excellent opportunity. Office and house combination. New modern dental office, 2 operatories for four-handed dentistry, laboratory, dark room, 3 dental assistants. Excellent income and rate of collection. 15 miles from Windsor, Ontario. Reply CDA Box No. 1346.

ONTARIO — Kingston. Practice for sale. Available the end of June 1974. Ideally located in modern professional building, excellent clientele, established 8 years. Two fully equipped operatories for four-handed dentistry; an excellent opportunity for new graduate. Present owner returning to postgraduate studies. Reply CDA No. 1368.

ONTARIO — Windsor. For sale. Attractive modern 4 bedroom home with 900 square feet. (5 room) office attached; price — \$84,000. Reply to CDA Box No. 1369.

ONTARIO — Ajax. For Sale: Three year old custom built eight room house with dental suite in basement, fully carpeted. Patient parking, private entrance, waiting room, three operatories, lab and dark room, business and reception area and private consultation office. Near Toronto in growing community. Call 416-942-7573 or write Dr. S. Gertz, 23 Emperor Street, Ajax, Ontario L1S 1M8.

ONTARIO — Hamilton. Well established, fully equipped general practice for sale. Includes two air-conditioned operatories; hygienist's room; laboratory; dark room; sterilizing area; reception room; business office; private office. Excellent gross income and collection rate. Contact Dr. J. K. Hunter, 1104 Fennell Ave., E., Hamilton, Ontario L8T 1R9 or phone 1-416-389-2631.

ONTARIO — Kingston. URGENT! DENTIST NEEDED FOR RESIDENTIAL DISTRICT OF KINGSTON, ONTARIO. For Sale — Modern Cedar panelled three bedroom bungalow. Self-contained dental office with private entrance in lower level. Two operatories for four handed dentistry and room for expansion. Very active practice for eighteen years. No successor. Immediate Possession. Phone Robert Werry 613-584-4583.

ONTARIO — North Toronto. For Sale. Well established Orthodontic Practice in prestige community, fully equipped two chair office and lab. Ill health forces sale. Reply CDA Box No. 1379.

ONTARIO — Toronto. For Sale — Excellent practice in prestige location in central Toronto. Low Overhead. High net. On four day work week. Older equipment. Reply CDA No. 1380.

ONTARIO. PRACTICE FOR SALE. Southwestern Ontario, House-Office combination. Modern office in older home — 2 operatories — one for sit-down dentistry, preventive room, dark room. Equipment 2 years old. Town of 5000. Available May 1, 1974. Reply CDA Box No. 1378.

ONTARIO — Downtown Ottawa. Busy Practice for sale, present dentist returning to postgraduate studies. Very reasonable rent. 2 operatories fully equipped for four-handed dentistry plus third room, dark room, laboratory, private office etc. For further details please contact Dr. J. Hajdu, 170 Metcalfe, Ottawa, K2P 1P3.

ONTARIO — Schomberg. Two suites available for needed dentist in clinic. Choice of 750 sq. ft. or 220 sq. ft. with communal waiting and toilet rooms with other patients. Country practice in beautiful location about 30 miles from Toronto and 10 miles from nearest hospital at Newmarket. Apply Dr. H. T. Jones, Box 128, Schomberg, Ontario. L0G 1T0. Tel: 416-939-2213.

QUEBEC — Beaconsfield. Dental office for sale. Available July 1974. Returning to school. Excellent family practice. Low overhead. Excellent income. Reply CDA Box No. 1370.

QUEBEC — Montreal. Wanted — Dentist with his own following to share premises in a modern building, Caisse Populaire Building, Côte des Neiges, corner Edouard Montpetit. Two operatories. Willing to share same — reason: to exchange professional knowledge. Call: Doctor Sydney Hornstein — 342-1742.

ONTARIO — Willowdale. Oral surgeon wanted to rent a completely equipped 2-op dental office in the mornings. All services and staff provided. High density area. Recovery room facilities possible. Reply CDA Box No. 1332.

ASSOCIATESHIPS AVAILABLE

BRITISH COLUMBIA — North Vancouver. Full time Associateship available with view to partnership. Well established general practice, preventive oriented; one man office and hygienist with 5 modern operatories. Applicant must have 4 to 5 years experience. Reply to Dr. D. C. Alderson, No. 2, 126 West 16th, North Vancouver, B.C. 604-985-9711.

MANITOBA — Winnipeg. Oral surgeon certified to practise in Manitoba required for busy Winnipeg practice. Object partnership. Please submit qualifications and address. Reply CDA Box No. 1358.

ONTARIO — Windsor. Associate desired in modern medical-dental centre. All phases of family dentistry with emphasis on prevention. Five sit-down OR's with a full-time hygienist. Reply: Dr. A. Kupsov, 1505 Prince Road, Windsor 10, Ontario. Tel: office, 519-258-4371; home, 519-969-0632.

ONTARIO. One or two associates required by May 1st for well-established general practice with unlimited supply of patients. Just one hour west of Toronto. Please reply CDA Box No. 1376.

ONTARIO — St. Catharines. Associate required to join a group practice, modern facilities, with full preventive program. Reply: Dr. D. C. Goode, 278 Linwell Road, St. Catharines, Ontario.

ONTARIO — Stratford area. Associate to take over and later assume practice. Wonderful opportunity. No outlay. Health reasons. Reply CDA Box 1343 or Tel: 527-1530 (collect).

ONTARIO. Full time associate desired for busy small town practice in Tottenham, 30 miles North West of Toronto. Must stay at least 1 year. Future partnership possible. Call Dr. G. Ross (416) 936-4663.

ONTARIO. Associate required for general dental practice in Kingston-Collins Bay area — 2 fully equipped operatories with Medwest 210 units, Ritter air glide chairs and x-ray in each — hygienist. For more information write CDA Box No. 1381 or call (613) 272-2682 days or (613) 273-2162 evenings.

ONTARIO — Hamilton. Associate required for office designed to accommodate two dentists. Active, well established general practice. Reply CDA Box No. 1382.

ONTARIO. Unique opportunity for young orthodontist to associate in a busy practice in Eastern Ontario. Full partnership will be made available in the future. Apply in writing, stating qualifications, age, etc. to CDA Box No. 1384.

ONTARIO — Toronto. Paedodontist requires associate with view to partnership. Reply stating all particulars to CDA Box No. 1385.

ONTARIO — Ottawa. Associate required for busy general practice. East End. Apply: Dr. Laval Carrier, 2016 Ogilvie Rd., Suite 42, Ottawa, Ontario K1J 7N9.

ALGONQUIN COLLEGE HEALTH SCIENCES DIVISION requires a Director of DENTAL HEALTH SCIENCES

Qualifications: The candidate may be a dentist or a dental hygienist holding an advanced degree.

Duties: The Director will assume the responsibility for continuing the planning and implementation of the recently established Dental Hygiene program; will supervise the current Dental Assisting program; will maintain close liaison with both Advisory Committees; will be responsible to the Dean of Health Sciences for the overall management of both programs and operation of the new clinic; will develop and administer the operating budgets of these programs; will hire and assess all staff; will provide faculty and students with guidance in both academic affairs and clinic operation. This position is essentially a managerial one.

Salary: Subject to negotiation.

The position may be required to be bilingual, as provided by established Board policy, depending on the balance of bilingual personnel in the Section. A successful unilingual candidate to the position who is determined to be bilingual, will be given the opportunity and expected to acquire adequate skill in the second language within a specified period of time.

Please apply in writing, quoting competition number, to:

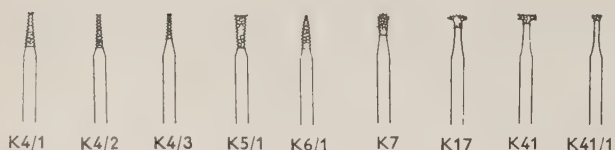
**The Personnel Office
1385 Woodroffe Avenue
OTTAWA K2G 1V8**

COMPETITION NO. 16-74

UNIVERSITY OF ALBERTA Faculty of Dentistry "ORAL DIAGNOSIS"

Applications are invited for a full-time position in Oral Diagnosis, Applicants must have a D.D.S. (or equivalent). Salary and academic rank depend on qualifications and experience. Intramural part-time practice allowed. Enquiries, with current curriculum vitae, should be submitted to:

Wm. T. Harley, D.D.S., M.S.D.
Chairman of Staffing & Recruitment
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The University of Alberta
Edmonton, Alberta, Canada



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QUEBEC — Montreal. Associate wanted for quality practice in Outremont district to do general dentistry. New or recent graduate preferred. Please reply in your own handwriting stating qualifications and when available. CDA Box No. 1388.

ALBERTA — Red Deer. Associate required in a 5 chair office. For information please write to Dr. S. Fleming, 301 Bunn Building, Red Deer, Alberta or telephone 346-3110.

LONDON & DISTRICT DENTAL SOCIETY GROUP TOUR

Fédération dentaire internationale, London, England, September 8-14, 1974.

London & District Dental Society package group tour via Holland (2 ½ days) then convention in London. Departing September 4th. Total time of trip is 14 or 19 days depending whether or not one takes the option of staying in England following convention or going to Portugal. Carrier CP Air. Price \$389.00 (Holland included) and up depending on Canadian point of origin and options taken. First class hotels, air fare, many meals, transfers, etc. In addition, charter flight 3 weeks Sept. 7-29th., Toronto/London return \$219.00 CP Air. For further information, please contact: Dr. Bob Currie, 450 Central Avenue, Ste 401, London, Ontario N6B 2E8. Tel: 519-438-4749.

NATIONAL HEALTH CARE EVALUATION SEMINAR

**Faculty of Medicine, Dalhousie University
Halifax, Nova Scotia**

June 10-14, 1974

OBJECTIVES: To assist people involved in health care delivery and research to develop an understanding of methods and techniques required for demonstrating and evaluating health-care projects.

PARTICIPANTS: Health professionals, administrators, and others, from all health fields, concerned with evaluating health care.

EXPENSES: Tuition is \$100. Lodgings will be arranged at the University for \$5.00/day. Limited financial support is available.

For information and application forms, write to:

Mrs. Marilyn Janigan (Program Co-ordinator),
Department of Preventive Medicine,
Faculty of Medicine,
Dalhousie University, Halifax, Nova Scotia.

Deadline for application: May 1, 1974.

This seminar is supported by a grant from the
Department of National Health and Welfare.

OPPORTUNITIES AVAILABLE

ALBERTA — Grimshaw. Progressive town of 2000 requires services of dentist. Surrounding area, additional 5000 residents. For more particulars contact Grimshaw Chamber of Commerce, P.O. Box 283, Grimshaw, Alberta.

AUSTRALIA. Excellent opportunity for Oral Surgeon to enter well established, specialist practice in Australia. All enquiries received in confidence. Reply to: Australian Dental Journal, Oral Surgery Advertisement, P.O. Box 411, North Sydney, N.S.W. 2060, Australia.

Province of British Columbia requires Specialist in Orthodontics to organize and provide a service for the orthodontic treatment of children prior and/or subsequent to the surgical repair of a cleft lip and/or cleft palate. A fully equipped central facility in Vancouver, B.C. will be provided and will be staffed with appropriate auxiliary dental personnel. The orthodontist will be required to fly to other centres of British Columbia probably one day each week.

Applicants should have appropriate training and experience in the orthodontic treatment of cleft palate cases and be eligible to become registered and licensed as an orthodontic specialist in British Columbia.

Salary and terms of employment to be negotiated.

Enquiries should be sent to: Deputy Minister of Health, Government of British Columbia, Parliament Buildings, Victoria, B.C.

BRITISH COLUMBIA — Quesnel. Preventive oriented dentist wanted. Bright new modern with every conceivable piece of equipment. Located in Quesnel, B.C. the cariboo hunting and fishing centre. Telephone (604) 992-8331 or write to Dr. Rune Lindholm, 462 Reid Street, Quesnel, B.C. V2J 2M5.

NOVA SCOTIA — Halifax. An interesting position will be available in a hygienist oriented practice for an experienced dental hygienist capable of taking over a well established dental hygiene responsibility. The position offers a multi-faceted experience in many aspects of prevention, restorative dentistry, endodontics and interceptive orthodontics. The facilities include a 2000 sq. ft. office area, a large staff, and a completely equipped Cox designed operatory area. Benefits include a full month's paid vacation and the salary range is \$7000 to \$9000 commensurate with qualifications and experience. Please write to Dr. D. C. T. MacIntosh, 200 Medical Arts Building, 5880 Spring Garden Road, Halifax, N.S. or call (902) 423-7500.

ONTARIO — Cannington. Dental Surgeon required immediately for Cannington Medical Centre. This is a new medical building for two General Practitioners and Dentists, situated in Cannington Village (population 1,400) 70 miles North east of Toronto in prosperous well populated mainly farming area which is developing rapidly. Vast scope. Apply Box 310, Cannington, Ontario or telephone (705) 432-2569.

ONTARIO — Mississauga. General practitioner position available in established Mississauga group (Toronto) or 3 General Practitioners and 12 auxiliaries. Initial annual salary \$22,000 plus bonus. Future partnership discussions would be encouraged. Join a flexible, progressive growing group. Send full particulars to arrange a personal interview. Dixie Dental Associates, Dixie Plaza, Mississauga, Ontario.

OREGON — Portland. University of Oregon Dental School requires Director of Instructional Development. Essential training or experience includes instructional design, program development, evaluation and A.V. media.

Qualifications: doctorate; experience in dental education desirable. Salary: open.

Direct correspondence to: Dr. LeGrand H. Woolley,
Dept. of Pathology, University of Oregon Dental School,
611 Campus Drive, Portland, Oregon
97201

Telephone (503) 225-8904.

UODS is an E.O. Employer.

QUEBEC — Westmount. Hygienist required for modern, progressive Montreal office. Present hygienist leaving this summer. Will be expected to participate in all hygiene duties including a full preventive control program. Contact Dr. L. E. Kent, 4695 Sherbrooke Street, West, Westmount, Quebec H3Z 1G2.

MANITOBA — Winnipeg. University of Manitoba, Faculty of Dentistry, Oral Surgery. Applications are invited for a full-time position as Chairman of the Section of Oral Surgery. Applicants must be eligible to sit licensure examinations in Manitoba, should have graduated from an accredited oral surgery program and be eligible to sit the examinations of the Royal College of Dentists (Canada) or the American Board of Oral Surgery. Salary and academic rank negotiable, depending upon qualifications and experience. Hospital appointment and intramural part-time practice available. Enquiries, with current curriculum vitae, should be submitted by May 15th, 1974 to:

Dr. S. M. Borden, Acting Head, Department of Stomatology,
Faculty of Dentistry, University of Manitoba,
780 Bannatyne Ave., Winnipeg R3E 0W3, Manitoba.

UNIVERSITY OF ALBERTA Faculty of Dentistry "FIXED PARTIAL DENTURES (CROWN & BRIDGE)"

Applications are invited for a full-time position in Fixed Partial Dentures. Applicants must have a D.D.S. (or equivalent) and be a graduate of an accredited F.P.D. program. Salary and academic rank depend on qualifications and experience. Intramural part-time practice allowed. Enquiries, with current curriculum vitae, should be submitted to:

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Excellent opportunity for dentists who would like to participate in a children's dental care program.

The program features the latest concepts in dental health education, prevention and treatment. The team approach utilizing expanded function dental hygienists is the most advanced in use in North America. Services are provided in new multi-chair mobile and fixed clinics equipped for sit-down four-handed dentistry. The Mobile Clinic staffs commute an average of 35 miles from an urban centre. Five clinics are presently in operation. Licence to practice in P.E.I. is necessary.

Salary \$17,500 – \$26,100

Starting salary \$17,500 to \$24,380 depending on experience and qualifications.

Apply: Director, Division of Dental Public Health
Department of Health, P.O. Box 3000
Charlottetown, P.E.I., C1A 7P1

UNIVERSITY OF ALBERTA Faculty of Dentistry "DIRECTOR OF PATIENT MANAGEMENT"

Applications are invited for a full-time position as "Director of Patient Management". This position carries with it the responsibility of patient supply and procurement, screening patients, patient-assignments to students, patient progress control, and administration of the Records area and staff. Applicants must have a D.D.S. (or equivalent) and an interest in Administration. Salary and academic rank depend on qualifications and experience. Intramural part-time practice allowed. Enquiries, with current curriculum vitae should be submitted to:

Wm. T. Harley, D.D.S., M.S.D.
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The University of Alberta
Edmonton, Alberta, Canada

OPPORTUNITIES WANTED

ONTARIO – Hamilton. Denture therapist – over 30 years R.D.T., 6 months therapist experience. Desires full or part time position with dentist, dentists or group practice on percentage basis. In or within 25 miles of Hamilton. Reply to CDA Box No. 1387.

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ONTARIO. P & C executive unit, Ritter Vega chair, Siemens X-ray, Philips Clairmat Auto Developer, Misc. sundry items. All 2 years old. Asking 2 year depreciated value. Phone 1-519-733-4338. Evenings or weekends.

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Dr. M. Norman
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The Department of Dental and Oral Surgery of the Brookdale Hospital Medical Center, Linden Blvd. at Brookdale Plaza, Brooklyn, New York, will present its monthly Scientific Meeting on:

DATE: May 1, 1974

SPEAKER: Dr. Sidney Silver

SUBJECT: Intravenous Sedation – A Report on
10,000 Cases

TIME: 7:00 P.M.

PLACE: The Brookdale Hospital Medical Centre
Conference Room 101A – Samuel
Schulman Institute, Linden Blvd. at
Brookdale Plaza, Brooklyn, New York

Members of the Dental and Allied professions are welcome.

All Dentists who wish to be informed of the Dental programs of the Brookdale Hospital Medical Center will be gladly placed on our mailing list. Just write to:

Dr. A. Norman Cranin
Director of Dental and Oral Surgery
The Brookdale Hospital Medical Center
Linden Blvd. at Brookdale Plaza
Brooklyn, New York 11212

**SASKATCHEWAN
DEPARTMENT OF PUBLIC HEALTH**

Requires

**DENTISTS
DENTAL SPECIALISTS**

Applications are invited from interested dentists and dental specialists who wish to be considered for future employment in the Saskatchewan Dental Care Plan for Children.

These positions which are to be established during the coming year will offer a unique opportunity for members of the profession to become involved in North America's first province wide publicly run Denticare Program for Children.

A team approach will be used to deliver both preventive and treatment care services to children up to 12 years of age. Saskatchewan Dental Nurses, Certified Dental Assistants and dentists together with supportive staff will make up the teams. Full and/or part-time positions will be available throughout the province.

These positions call for dedicated, energetic, self-starters. Age is no barrier.

Basic duties will include examination, diagnosis, treatment planning, and referral of children to dental auxiliaries and dentists. Dental treatment services for children will also be carried out by the incumbents of these positions.

QUALIFICATIONS FOR LEVEL I:

- D.D.S. or D.M.D. degree
- eligible for registration with College of Dental Surgeons of Saskatchewan
- practice experience related to Pedodontics

QUALIFICATIONS FOR LEVEL II:

- as in Level I plus one of the following —
- Formal Postgraduate training in Pedodontics. Diploma or Masters
- Formal Postgraduate training in Orthodontics. Diploma or Masters
- Formal Postgraduate training in Public Health or Community Dentistry. Diploma or Masters.

REMUNERATION — Commensurate with qualifications and experience.

Graduates of U.S. and Canadian Dental Schools can register in Saskatchewan without further examination. Boards not required.

For further information and application forms, write to:

Director, Dental Health Division
Department of Public Health
3211 Albert Street
Regina, Saskatchewan, Canada

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Please check any of these items and mail the page to us with your name and address.

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HEALTH SCIENCES DIVISION

requires

DENTAL HYGIENIST TEACHERS

There is an immediate requirement for two full-time Registered Dental Hygienists to assist the Director of Dental Health Sciences in the conduct of Dental Hygienist programs at the College.

Applicants must be registered in the Province of Ontario and their duties will include teaching in dental sciences, dental health education and practical laboratory and clinical subjects related to private practice.

Since one of the two positions will be Program Coordinator, applicants with teaching and supervisory experience in a Dental Hygiene program, or who hold a degree in Dental Hygiene will be given first consideration.

Salaries are negotiable commensurate with training and experience.

Bilingualism would be an asset.

Please apply in writing, quoting competition number, to:

**The Personnel Office
1385 Woodroffe Avenue
OTTAWA K2G 1V8**

COMPETITION NO: 35-74 closes April 30, 1974

CITY OF VANCOUVER

DENTIST 1

DUTIES:

To perform general dental and oral surgical services for Kindergarten-age children. To educate their parents on matters pertaining to oral hygiene and to participate in dental health education programs.

QUALIFICATIONS:

Completion of professional training in dentistry. Eligible for license with the B.C. College of Dental Surgeons. A keen interest in working with pre-school children.

SALARY:

\$1,520 to \$1,822 per month.

APPLICATIONS:

Must be obtained from and returned to the Director of Personnel Services, 453 West 12th Avenue, Vancouver 10, B.C., along with a detailed resume of education and experience. Please quote competition P-9174.

ADVERTISERS' INDEX

	Page(2)
Ash Temple Ltd.	319
Astra Pharmaceuticals (Canada)	OBC
Block Drug Company (Canada) Limited	260,269
John O. Butler Co.	258
L.D. Caulk Company of Canada	IBC
Ceramco Inc.	259
C.M.L. Medical Leasing Service	259
Coe Laboratories	299
Cooke-Waite Laboratories Limited	292,293
Denco	250
Dentsply International	246,254,263,278
Charles E. Frosst & Co.	IFC
General Electric Medical Systems	273
Inter-Unitek Canada Ltd.	265,284
Janar Co. Inc.	272
Mo-dent Ltd.	276
The C.V. Mosby Co.	281
Nobilium Products of Canada	252
Ontario Dental Association	304
Pelton and Crane Company	256
Pfingst & Company	317
Proctor & Gamble	245
Shaw Research	255
Shofu Dental Corporation	283
Tek-Hughes	286
Ticonium	277
Warner-Lambert (Canada) Ltd.	251
Whaledent Inc.	248
Williams Gold Refining Co. (Canada) Ltd.	271,305

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OCT. 8 - 9, 1974



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE

IMPORTANT: This form is to be completed by those desiring advance registration and accommodation in Toronto during the forthcoming convention. Please mail the complete form, and, where applicable, your cheque for \$50.00, to the CONVENTION BUREAU at the above address. **To receive your choice of accommodation, and first option on tickets to social events, register early! Preregistrations will not be accepted after the end of August, 1974.** After August 31, please make your accommodation

arrangements directly with the hotel of your choice, and register at the convention registration facilities in the Four Seasons Sheraton Hotel, upon your arrival. Ticket sales, major social events and commercial exhibits will also be at the Four Seasons Sheraton Hotel. The general scientific sessions will be at both the Four Seasons Sheraton and the Downtown Holiday Inn. The two hotels are quite close to one another, and each is the largest in its respective world wide hotel chain.

Please PRINT or TYPE requested information:

DATE: _____

NAME: _____ If wife attending, name: _____
 surname given names

ADDRESS: _____

Executive or honorary status in provincial, state, national, or international organizations,

Specify: _____

Group affiliation: (e.g. CDA Section (specify), or Exhibitors)

Please indicate first, second and third choice of hotel accommodation in column entitled Choices.

CHOICES

_____ Four Seasons Sheraton
_____ (Downtown) Holiday Inn
_____ Hyatt Regency Toronto

☐ Accommodation not required

☐ Single
☐ Double Bed
☐ Twin Bed
☐ Suite (Specify Type)

ARRIVAL DATE _____

TIME _____

DEPARTURE DATE _____

TIME _____

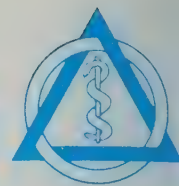
NOTE: Hotels will not normally hold a room beyond 6 p.m. unless a later time is specified.

The registration fee for dentists is \$50.00. Dentists' wives may register without charge, as may exhibitors. Make your cheque payable to CDA National Conventions.

REGISTRATION



CDA CONGRES NATIONAL ADC TORONTO Du 6 au 9 nov. 1974 CONVENTION



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE

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IMPORTANT: Cette formule doit être remplie par tous ceux qui désirent s'inscrire à l'avance et retenir une chambre pour le prochain Congrès qui aura lieu à Toronto. Veuillez retourner cette formule dûment complétée ainsi qu'un chèque de \$50.00, au BUREAU DU CONGRÈS, à l'adresse ci-dessus. **Les meilleures chambres iront aux premiers inscrits! Les inscriptions prioritaires ne seront pas acceptées après août 1974.** A partir du 31 août, vous devrez faire vos réservations directement avec l'hôtel de votre choix et

vous inscrire aux guichets d'inscription du Congrès, à l'Hôtel Four Seasons Sheraton, à votre arrivée. Les expositions commerciales et la plupart des réunions des sections auront lieu aussi à l'Hôtel Four Seasons Sheraton. Les séances scientifiques générales auront lieu aux deux Hôtels Four Seasons Sheraton et le Downtown Holiday Inn. Ces deux hôtels qui serviront de centre principal sont très près l'un de l'autre, et font respectivement parti d'une chaîne d'hôtel mondiale.

Veuillez écrire en LETTRES MOULÉES:

DATE: _____

NOM: _____ Nom de l'épouse si elle doit venir: _____
nom de famille prénoms

ADRESSE: _____

Fonction ou rang honoraire dans un organisme provincial, national, international ou d'état,

Précisez: _____

Appartenance à un groupe, précisez: (par ex. Section de l'ADC ou Exposants)

Veuillez indiquer vos trois premières préférences dans les listes intitulées Choix.

CHOIX

- # _____ Hôtel Four Seasons Sheraton
- # _____ Hôtel Holiday Inn (Centre-Ville)
- # _____ Hôtel Hyatt Regency Toronto

- ☐ Lit simple
- ☐ Lit double
- ☐ Lits jumeaux
- ☐ Suite (Spécifiez le genre)

ARRIVÉE, Date: _____

Heure: _____

DÉPART, Date: _____

Heure: _____

☐ CHAMBRE NON REQUISE

AVIS: Normalement les hôtels ne retiennent pas une chambre après 6 p.m. exception faite sur demande.

Le prix d'inscription pour les dentistes est de \$50.00. Inscription gratuite pour les femmes des dentistes et les exposants. Rédigez votre chèque à l'ordre du Congrès National de l'ADC.

ONTARIO HEALTH DISCIPLINES ACT ALLOWS PUBLIC SAY

Umbrella health legislation has been given first reading in the Ontario legislature, providing new definitions and regulation for the practice of dentistry, medicine, nursing, optometry and pharmacy. Known as the Health Disciplines Act, it will establish a Health Disciplines Board composed entirely of public representatives who are not members of any health profession.

The Board of Directors of the Royal College of Dental Surgeons of Ontario will continue as the Council of the College, to serve and protect the public interest, but will now include with its elected members, between three and five lay persons, appointed by the Lieutenant Governor in Council and one appointee from each faculty of dentistry in the province. It will provide the necessary licensing mechanism, as well as registration, complaints and discipline committees, each of which will also have lay members. The complaints committee will consider and investigate complaints made by the public or members of the College regarding the conduct of practising dentists. Subsequent action by the complaints and/or discipline committee may be appealed to the Health Disciplines Board.

Dr. K.F. Pownall, registrar, says, "The College welcomes lay persons to our Council and committees, in fact, three citizens have already been appointed. We are generally happy with the legislation, apart from some minor items, none of which involve principles."

A spokesman for the Health Disciplines Board Secretariat has pointed out there is no provision within the new Act to permit the collection of voluntary association fees, as part of the licensure mechanism by the College.

Ontario dentists can be reassured that neither is there reference or intent in the legislation to regulate conjoint relationships between the voluntary provincial organization and the national body. Misinterpretation of this point has been widespread throughout the province but can now be corrected.

ANOTHER STEP ON THE WAY TO OTTAWA CONSTRUCTION

April 1, the Executive Council of the Association approved a motion that CDA proceed immediately with the steps necessary to begin construction of the proposed new headquarters building in Ottawa. President, J.E. Abra, has received an invitation to the annual meeting of the Canadian Medical Association in May, at which time he will be discussing with their officials a proposed collaboration in building facilities. The CDA's proposed headquarters property adjoins the CMA property on Alta Vista Drive, in the Ottawa area designated for the health sciences.

CHANGE PROPOSED IN "EFFECTIVE SUPERVISION" STATEMENT

Dentists and auxiliaries attempting to work under the CDA Board of Governor's 1973 resolution on effective supervision have found ambiguity in the section of the statement which says, "The allied dental health worker who renders services directly for the patient will perform his or her duties within the same accommodation as that occupied by the dentist when the dentist is present."

The Executive Council at its April 1 meeting reconsidered the statement on the basis of an enquiry from the Council on Health Care, and will recommend to the Board of Governors at the 1974 Annual Meeting, that the section be revised as follows: "The allied dental health worker who renders services directly for the patient will perform his or her duties at the direction of a supervising dentist. Need for the actual presence of the dentist will be regulated by the nature of the delegated services and the requirements of the Dentistry Act under which the services are being rendered."

OTHER EXECUTIVE COUNCIL ACTION

- . Authorization has been given for the CDA/Medifacts contract to be extended for a third year, under the editorship of G.S. Beagrie, University of Toronto, Faculty of Dentistry.
- . The Bureau of Public Information has been authorized to continue the services of Lloyd H. Bowen, as fluoridation consultant to the Association, for the year 1974.

PRESIDENT'S PARTY - SOCIAL HIGHLIGHT OF DENTAL YEAR

Each guest at this year's CDA National Convention President's Party will be presented with a large, souvenir bib - both to permit full enjoyment of the enormous "Tom Jones" meal which is planned and full participation in the rollicking atmosphere. Waiters, in medieval costume, will parade to the tables with whole decorated turkeys, chickens, hams and butts of beef. Various wines, including hot mead, will be laid on in quantity to wash down the many complementary courses.

Along with all this will be continuous entertainment from many different acts, plus a lot of surprise events. No wonder the President's Party is billed as the social highlight of the dental year.

Dress is optional and tickets are available only to registered delegates. Pre-registrants will be given an opportunity to purchase tickets in advance. Of necessity, attendance and, therefore, tickets are limited at this extravaganza. See the registration form on the back page of this issue and plan to attend.

UNE NOUVELLE ETAPE VERS L'ETABLISSEMENT A OTTAWA

Le premier avril, le Conseil exécutif d'Association a approuvé la proposition de prendre immédiatement les mesures nécessaires pour commencer les travaux du nouveau secrétariat proposé à Ottawa. Le docteur J.E. Abra, président, a reçu une invitation pour assister à la réunion de l'Association médicale canadienne en mai prochain. A la même époque, il discutera avec les autorités de l'AMC de la collaboration proposée concernant la construction de l'édifice. La propriété sur laquelle l'ADC propose d'ériger un secrétariat avoisine celle de l'AMC sur la voie Alta Vista dans la part désignée par Ottawa pour les sciences de la santé.

AUTRES MESURES ADOPTEES PAR LE CONSEIL EXECUTIF

- L'autorisation prolongeant le contrat Medifacts de l'ADC pour la troisième année sous la direction du docteur G.S. Beagrie de la faculté de dentisterie de l'université de Toronto.
- L'autorisation accordée au Bureau d'information au public de maintenir en 1974 les services du monsieur Lloyd H. Bowen, en qualité de consultant en fluoration au sein de l'Association.

LA RECEPTION DU PRESIDENT - L'EVENEMENT SOCIAL DE L'ANNEE DANS LE DOMAINE DENTAIRE

Tous les invités à la réception du président lors du Congrès national de l'ADC recevront une bavette leur permettant à la fois de savourer pleinement le repas "Tom Jones" gargantuesque au programme et de participer à part entière à l'ambiance de gaité exubérante qui régnera sous les yeux.

Les garçons de table, en costume moyenageux, défileront vers les convives en portant des dindes, des poulets, des jambons et des quartiers de bouef décorés comme il convient. De somptueuses libations d'une grande variété de vin y compris du miel fermenté chaud faciliteront la digestion des nombreux plats au menu.

Ce festin sera accompagné d'un spectacle continu et même de plusieurs événements de surprise. Ces projets permettent d'affirmer, sans exagération, que la réception du président sera l'événement social de l'année dans le domaine dentaire.

L'habit sera au choix de l'invité et des billets sont disponibles uniquement aux délégués inscrits. Ce qui s'incrira à l'avance auront l'occasion de se procurer des billets immédiatement. Votre présence est requise et les billets pour assister à cette remarquable fantaisie sont forcément limités. Retrouvez une forme d'inscription à la dernière page de ce numéro. Prenez sans tarder votre décision.

CHANGEMENT PROPOSE DANS LA DECLARATION CONCERNANT LA "SUPERVISION EFFICACE"

Les dentistes et les auxiliaires désirant travailler d'après les directives contenues dans la résolution du Conseil des gouverneurs prise en 1973 concernant la "supervision efficace", ont rencontré certaines ambiguïtés dans la section de la déclaration stipulant que "L'auxiliaire en santé dentaire qui administre des services directement au patient remplira ses fonctions dans le même lieu occupé par le dentiste quand ce dernier est présent."

Le Conseil exécutif a révisé cette déclaration à la réunion du premier avril, et à la lumière d'une enquête du Conseil sur les soins de santé, il recommandera au Conseil des gouverneurs à la réunion annuelle 1974 que la section soit révisée comme suit: " L'auxiliaire en santé dentaire qui administre des services directement au patient remplira ses fonctions sous la direction et la surveillance d'un dentiste. La nécessité de la présence réelle du dentiste dépendra de la nature des services administrés et les exigences de la Loi concernant la dentisterie en vertu de laquelle ces services seront rendus."

LA LOI CONCERNANT LES DISCIPLINES DE LA SANTE PREVOIT LA PARTICIPATION DU PUBLIC

La Loi-cadre sur la santé a subi la première lecture à l'assemblée législative de l'Ontario. Cette loi prévoit de nouvelles définitions et de nouveaux règlements concernant la pratique de la dentisterie, de la médecine, du nursing, de l'optométrie et de la pharmacologie, et sera connue sous l'appellation de Loi concernant les disciplines de la santé. Elle prévoit la formation d'un Conseil des disciplines de la santé composé entièrement des représentants non-professionnelles de la santé.

Le Conseil des directeurs du Collège royal des chirurgiens-dentistes de l'Ontario, continuera, à titre de Conseil du Collège, de protéger les intérêts du public, et comprendra en plus de ses membres élus de trois à cinq membres profanes nommés par le lieutenant-gouverneur en Conseil, ainsi que des représentants délégués par chaque faculté de dentisterie de la province. Ce Conseil assumera les autorisations professionnelles nécessaires ainsi que les formalités de l'inscription, des plaintes et des comités de discipline et qui comprennent aussi des membres profanes. Le comité des plaintes considérera et enquêtera sur les plaintes déposées par le public ou les membres du Collège, relatives à la conduite des dentistes pratiquants. Le Conseil des disciplines accueillira les appels des réclamations et/ou de l'action conséquente.

Le docteur K.F. Pownall, secrétaire-archiviste, a déclaré, "Le Collège souhaite la bienvenue aux profanes qui seront parti du Conseil et des comités. En fait, trois personnes ont déjà été nommés. A l'exception des quelques points mineurs qui n'affectent pas les principes, nous sommes, en générale, satisfaits de la Loi."

Le porte-parole du secrétariat du Conseil des disciples de la santé déclare que la nouvelle Loi n'a pas prévu l'autorisation de percevoir les cotisations des associations comme parti intégral des mécanismes de l'autorisation professionnelle assumés par le Collège.

Les dentistes de l'Ontario peuvent avoir l'assurance que la Loi ne fait aucune mention ou n'exprime pas l'intention de régir les relations conjointes entre les organismes provinciaux autonomes et la corporation nationale. De fausses interprétations répandues dans la province peuvent maintenant être réfutées.

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Normal home usage—children—J.A.D.A. 51:556, 1955

Normal home usage—children—J.A.D.A. 64:216, 1962

Normal home usage—children—J.A.D.A. 72:408, 1966

Normal home usage—children—J. Canad. Dent. Assn. 36:262, 1970

Normal home usage—children—J. Dent. Child. 37:501, 1970

Normal home usage—children—J. Canad. Dent. Assn. 38:35, 1972

Normal home usage—children—J. Canad. Dent. Assn. 38:155, 1972

Fluoridated water—children—J. Dent. Child. 38:211, 1971

Supervised brushing—children—J.A.D.A. 58:42, 1959

Supervised brushing—children—J.A.D.A. 64:217, 1962

Supervised brushing—children—J.A.D.A. 65:482, 1962

SnF₂ topical—children—J. Dent. Child. 28:5, 1961

SnF₂ topical and prophylaxis—children—J.A.D.A. 70:914, 1965

SnF₂ topical and prophylaxis—children—J.A.D.A. 72:392, 1966

SnF₂ topical and prophylaxis—adults—J.A.D.A. 75:1402, 1967

SnF₂ topical and prophylaxis—adults—J.A.D.A. 77:594, 1968



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JOURNAL

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Executive Director's Page	339
Editorial	
Dental research in Canada	335
Viewpoint	
Search for safety	338
Special Features	
CFDE 1973 Progress Report	
Dental research: avocation or vocation — Hunter	359
Current problems to a dental research career — Francis	360
Evolution of dental research in Canada — Blackmore	363
Regular Features	
Dentistry in the news	344
Les actualités dentaires	355
Letters to the editor	343
Deaths	348
Announcements	331
Articles	
A clinical evaluation of nitrous oxide oxygen sedation for dental procedures — Goldstein and Goldstein	367
Single appointment therapy for a periodontal abscess — Harvey	372
Polycarboxylate cement as a pulp capping agent — Beagrie, Main, Smith and Walshaw	378
Broad spectrum antibiotics: tetracycline, ampicillin and cephalixin — deVries and Francis	385
Classified advertising	388
Advertisers' index	394

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Announcements/Avis

Information about other meetings or courses, including American continuing education courses, may be obtained by writing to CDA headquarters.

Canadian Dental Association

1974 Toronto, Ont, Oct 6-9
Complete details available from registration form. See last page.
1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14
1975 Chicago, USA, Oct 26-30

Canadian Meetings

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 12-15, 1974. Mrs. W. C. Durham, 230 St. George St, Toronto, Ont, M5R 2P1.

Alberta Dental Association, at Palliser Hotel, Calgary. May 30-31, 1974. J. R. Duncan, 306, 1711-4th St. S.W., Calgary, Alta.

Sixth International Conference on Oral Biology, at Toronto, June 3-5, 1974. G. S. Beagrie, Faculty of Dentistry, 124 Edward St., Toronto, Ont. M5G 1G6.

Nova Scotia Dental Association, at Old Orchard Inn, Greenwich, NS. June 7-8, 1974. Dr. S. G. Bagnall, Executive Secretary, NS Dental Assn, PO Box 604, Halifax, NS.

The Association of Canadian Faculties of Dentistry/L'Association des Facultés Dentaires du Canada, at Digby Pines, Digby, N.S. June 17-19, 1974. Dr. G. W. Myers, 3036 Dentistry/Pharmacy Centre, University of Alberta, Edmonton, Alberta T6G 2H7.

Canadian Public Health Association, at the Arts and Culture Centre, St. John's Nfld. June 18-21, 1974. CPHA, 55 Parkdale Ave., 3rd Floor, Ottawa, Ont. K1Y 1E5.

Northern Ontario Dental Association, at North Bay, Ont. Sept 6-8, 1974. R. C. Weegar, 539 Cassells St, North Bay, Ont.

Canadian Association of Orthodontists, at Toronto, Sept 28, 1974. J. J. Schachter, Box 952, Saskatoon, Sask.

Canadian Academy of Periodontology, at Hyatt Regency Hotel, Toronto. Sept 29-30, 1974. J. D. Stewart, 311 Rubidge St., Peterborough, Ont. K9J 3P3.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd, Ste 810, Toronto, Ont.

Association of Prosthodontists of Canada, at Hyatt Regency Hotel, Toronto. Oct 4-6, 1974. G. Zarb, Faculty of Dentistry, 124 Edward St, Toronto, Ont. M5G 1G6.

Canadian Academy of Oral Radiology, at Toronto. October 6, 1974. D. W. Stoneman, Dept. of Radiology, Faculty of Dentistry, 124 Edward St., Toronto M5G 1G6.

Canadian Society of Public Health Dentists, at Toronto. Oct 6-7, 1974. J. McConchie, 14265 — 56th Ave. Surrey, B.C.

Society for Clinical and Experimental Hypnosis, Scientific Program and Workshops, at the Ritz-Carlton Hotel, Montreal. Oct 8-13, 1974. Germain Lavoie, Hopital Saint-Jean-de-Dieu, Montreal, Que. H1N 1Z0.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov 18-20, 1974. Miss M. Komarnicka, 4166 St. Catherine St. W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov. 28, 1974. Mrs. P. Williams, 230 St. George St., Toronto, Ont. M5R 2P1.

Vancouver and District Dental Society, at Vancouver, Dec 6-7, 1974. Vancouver and District Dental Society, Suite 325, 925 West Georgia St, Vancouver 1, BC.

College of Dental Surgeons of British Columbia, at Hyatt Regency Hotel, Vancouver. Apr 30 — May 3, 1975. K. L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC.

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975. J. Bradey, 320 Eramosa Rd, Guelph, Ont.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W. C. Durham, 230 St. George St, Toronto, Ont, M5R 2P1.

Western Canada Dental Society, at Saskatoon. June 11-15, 1975. J. C. Horn, 101-230-20th St. E, Saskatoon, S7K 0A6.

Canadian Society of Public Health Dentists, at St. John's, Nfld. Aug 17-20, 1975. J. M. Conchie, 14265 — 56th Ave., Surrey, BC.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Oct 25-26, 1975. Miss M. Komarnicka, 4166 St. Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Oct 27-29, 1975. Miss M. Komarnicka, 4166 St. Catherine St W, Montreal 215, P.Q.

American Association on Mental Deficiency, at Royal York Hotel, Toronto. June 4, 1974. Dr. K. E. J. Sansom, American Assn on Mental Deficiency, 5201 Connecticut Ave, N.W., Washington, D.C. 20015.

Asian-Pacific Dental Congress, at Jakarta, Indonesia. June 18-22, 1974. Dr. Yetty Rizali Noor, Faculty of Dentistry, Trisakti University, Grogol, Jakarta, Indonesia.

Pan American Congress of Oral Facial Rehabilitation, at San Diego, Calif. June 28-30, 1974. PACOFR, Suite 411, Sixth Ave. Medical Center, 2850 Sixth Ave, San Diego, Calif. 92103, USA.

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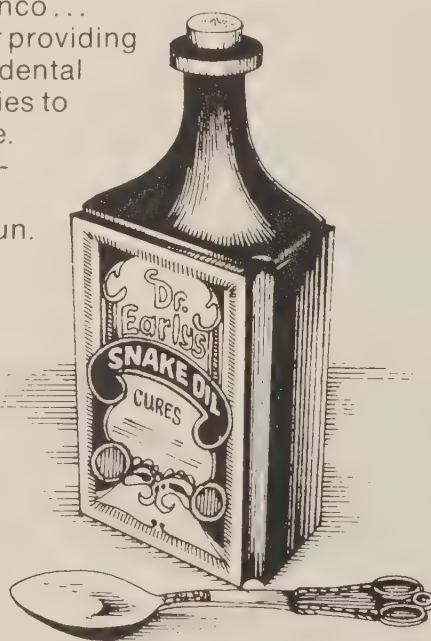
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Australian Orthodontic Congress, at Sydney. Aug 5-9, 1974. P. Kinsella, 11 Anderson St, Chatswood, N.S.W. 2067, Australia.

New Zealand Dental Association, at Auckland. Aug 26-30, 1974. Conference Secretary, New Zealand Dental Association, PO Box 28084, Auckland 5, NZ.

British Society of Periodontology, London, England. Sept 5-7, 1974. Registration and accommodation forms: Ian M. Waite, Dept. of Periodontology, Institute of Dental Surgery, Eastman Dental Hospital, 256 Gray's Inn Rd, London WC1 8LD, England.

Annual World Dental Congress of the FDI, at Royal Festival Hall, London. Sept 8-14, 1974. A. G. Alexander, British Dental Assn, 64 Wimpole St, London, England.

American Dental Association, at Washington, DC. Nov 10-14, 1974. American Dental Assn, 211 East Chicago Ave, Chicago, Ill. 60611, USA.

Pacific Dental Federation, at Acapulco, Mexico. April 20-26, 1975. J. Alvarez, Federacion Dental del Pacifico, Ezequiel Montes 92, Mexico 4, D.F.



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INDICATIONS: For relief of pain, fever and inflammation as in influenza, common cold, lumbago, sciatica, headache, dysmenorrhea and trauma and following operative procedures.

ADULT DOSAGE: One or two tablets as required.

CONTRAINDICATIONS: Sensitivity to any of the components.

PRECAUTIONS: Acetylsalicylic acid may depress the plasma prothrombin concentration. Care, therefore, should be exercised when acetylsalicylic acid and anticoagulants are prescribed concurrently.

Large doses of salicylates may have a

hypoglycemic action. This may affect the insulin requirements of diabetics. Salicylates can produce changes in thyroid function tests, and slightly increase the renal excretion of uric acid.

Acetylsalicylic acid preparations should be used with caution in patients with peptic ulcer. Analgesic abuse (excessive and prolonged therapy) has been associated with renal nephropathy.

ADVERSE REACTIONS: Skin rash, gastrointestinal bleeding, headache, nausea, vomiting, constipation, vertigo, ringing in the ears, mental confusion, drowsiness, sweating and thirst may occur with average or large doses.

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N '222'* Tablets — White, scored tablets containing:

Acetylsalicylic acid	375 mg.
Caffeine citrate	30 mg.
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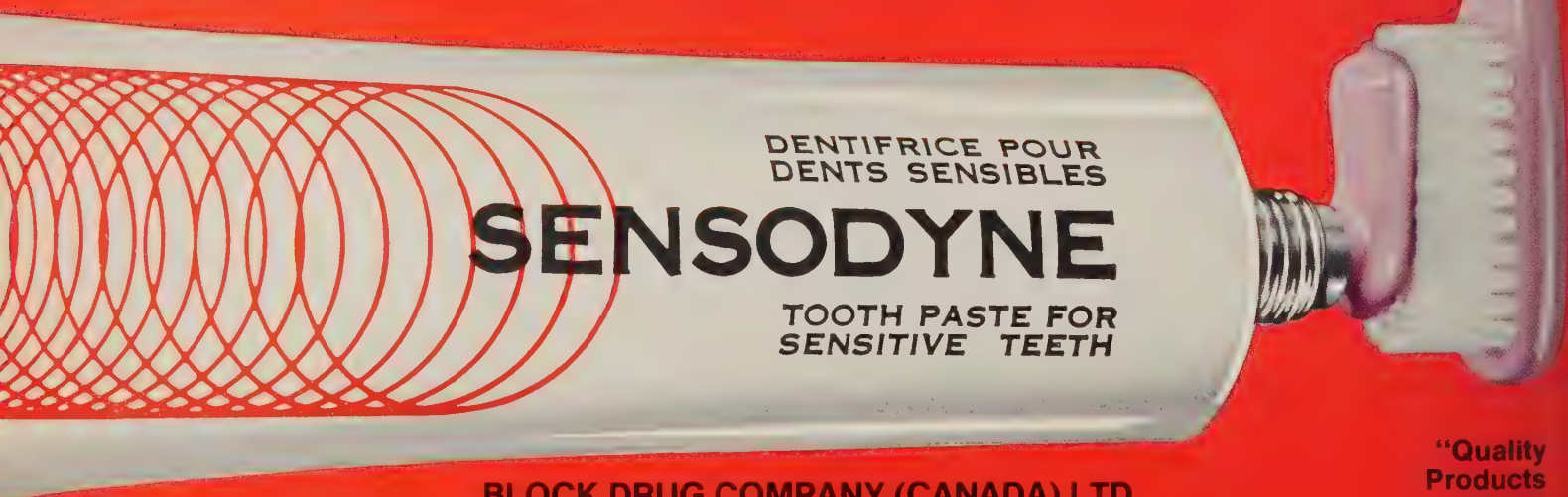
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EDITORIAL

Dental Research in Canada

The Throne speech has announced plans for reorganization of the National Research Council, Medical Research Council and Science Council under the Ministry of State for Science and Technology (see News) but stressed that this reorganization does not imply criticism of these agencies' past performance. The daily press has been carrying articles in which such prominent medical research workers as Dr. Charles Scriver, president of the Canadian Society for Clinical Investigation, are quoted as saying that MRC funding has not kept up with inflation for the last four years and that this lack of support for current medical research will be felt in the quality and cost of future health care. The cutbacks in scholarships for training of future research workers, added to the uncertainty of future support of research, means (quoting Dr. Philip Gold, professor of medicine at McGill) "that bright young men are lost forever as investigators and teachers." In the light of the medical profession's concern for the future of this country's medical research effort, we invited some Canadian dental research scientists to express their feelings about the status of dental research — see pages 359-364. Others declined to set down their thoughts in writing but communicated them to us verbally. Their thoughts may be summarized roughly as follows:

First, while the Medical Research establishment is encountering difficulty in maintaining itself — the dental research effort is in considerably greater jeopardy. Dental research is far more dependent on MRC support than is medical research, hence the cutback in MRC funds affects dental research more seriously. Why is there no outcry from the dental profession? Not only are the tight funds diminishing the number of individuals taking up research and teaching careers but the policy has re-started the "brain-drain" of Canadian dental teachers and researchers to the United States.

Second, although dental college staff are quite justified in engaging in basic science research and should do so, there has been too little interest in purely dental research of the type that would have direct bearing on the practice of dentistry. For various reasons (perhaps prestige or grantsmanship) some dental faculty members prefer to do basic research of the type which is already being done in medical schools, than purely dental questions such as the control of cervical caries, testing the clinical validity of flossing, improving orthodontic diagnosis, pulp protection, etc. for which the profes-

sion needs answers. Whereas the practice of medicine is being continuously re-moulded by research findings, the practice of dentistry has changed little over the last decades as a result of research, except that done by the dental supply companies and pharmaceutical industries who have improved the available materials and instruments.

Third, except on certain campuses, there is no point of focus for dental research in this country that compares at all with the leadership provided by the National Institute for Dental Research in the United States. There is no known policy for promoting dental research or definition of practical goals. There is little or no co-ordination of effort among the researchers who are scattered in the dental schools across the country.

Fourth, setting aside the lack of productivity, failure to maintain a minimal interest in research in many of our dental schools is degenerating them into technical training institutes hardly worthy of being called university faculties. Active engagement in some research is the only way university staff can maintain themselves at the level of teaching efficiency that the students have a right to expect. We suggest that it is time for some body, such as the Association of Canadian Faculties of Dentistry, to enunciate the role of research in the dental schools and ensure recognition of the importance of this activity by making research activity essential to accreditation.

Fifth, the profession cannot lay all the blame for a weak Canadian dental research arm on such bodies as MRC or the National Health Grants Administration. These granting bodies respond, as government agencies, to the popular demand as defined in legislation. It is up to the dental profession to state the policies, goals and requirements for its research. Then, if the granting agencies cannot provide these necessities under their current terms of reference, the profession has the right to lay the entire problem before the Ministry of State for Science and Technology. If, as we anticipate, the research objectives of the dental profession are clearly also those measures which would be best for the dental health of the Canadian people, there is no reason to anticipate anything other than support from the government. The essential fact is that the time is overdue when the dental profession should review the entire question of dental research in this country and provide the leadership which is part and parcel of its responsibility in the dental health field.

R. M. G.

Enjoy more at CDA Convention, October 6 - 9



Dentist Traveller, Jerry Gray, at home with his family

Dental pain: its origins and control

CDA Convention Scientific Program chairman, Miet Kamienski is enthusiastic about the plans of George Beagrie, University of Toronto, for a panel on "Dental pain — its origin and control." Dr. Beagrie was responsible for the outstanding symposium on "The Third Molar" at last year's Vancouver Convention.

Acceptances have already been received from three fine clinicians, including James K. Avery, Professor of Oral Histology and Dentistry at the School of Dentistry, University of Michigan. He is currently president of the International Association for Dental Research. Dr. Avery will be joined on the panel by Frances Greenwood, research associate at the University of Toronto's Division of Biological Sciences and by Barry Sessle, associate professor of Dentistry and assistant professor of Physiology, also from the University of Toronto.

MEET THE TRAVELLERS

Opening night entertainment at the CDA National Convention will feature the world-renowned singing group, The Travellers. This versatile Toronto-based group is a particularly apt choice for the dental event of the year, because Jerry Gray their leader and banjo player, is also a practising dentist from Toronto. That perhaps gave The Travellers some special insight when they helped devise and record the recent "Murphy The Molar" television commercials for the Ontario Ministry of Health.

The Travellers have appeared in concert throughout North America, as well as in Japan during Expo '70, in England at the London Palladium, in the Soviet Union as part of a cul-

tural exchange tour, and in both Germany and Cyprus entertaining Canadian Armed Forces personnel.

The CDA Convention Committee has billed the opening night as a "Harvest Hoedown," to be held Sunday evening, October 6, in the Four Seasons Sheraton. The entire evening is designed to wash away travel fatigue and to relax everyone for the start of the scientific sessions on Monday morning.

In addition to The Travellers, there will be other entertainment. No charge will be made for anything but the refreshments. All convention delegates and guests are welcome. The idea is to "come as you are" and enjoy an evening of good fun.

Education for the concerned hygienist

The Canadian Dental Hygienists' Association is again planning its annual convention in conjunction with the CDA National Convention, October 6-9. Their ambitious program is billed as "Spectrum '74: The Dimensions of Dental Hygiene."

The program will feature Edmund Truelove, from the University of Washington, speaking on "Total patient assessment," as well as many other outstanding clinicians and table clinics.

For further information contact: Mrs. Jane Costigane, #1504 — 18 Brownlow Avenue, Toronto, Ontario, M4S 2K8. Telephone (416) 486-5537.

What to see and do around Toronto



Villagers relive life as it was in the early days at Black Creek Pioneer Village.

Toronto has gained a justifiable reputation as a leading North American convention city. Delegates to the CDA National Convention will be able to sample its many charms while sightseeing before and after the convention events. The Four Seasons Sheraton, the convention hotel, is located in the heart of the city opposite Toronto's City Hall, and in the centre of excellent shopping and dining facilities.

Within a few minutes of the hotel is the Art Gallery of Ontario, with its historically-restored Grange and displays from every period of art back to the 14th century.

A short subway ride takes the visitor to the Royal Ontario Museum, with one of the world's finest and largest collections of Chinese treasures, as well as other outstanding exhibits from history and the natural sciences. Next door to the ROM is the McLaughlin Planetarium with its unique views of the heavens.

For those who would go further afield, the province provides the Ontario Science Centre where the motto is "please touch." People of all ages are invited to push buttons, pull levers and to learn from the many graphic science and technological displays.

Antique buffs and pioneer fans will certainly want to visit the Black Creek Pioneer Village at the metropolitan city limits, where life in the last century is vividly recreated. Staff members of the Village work in the smithy, bake bread, tend the farm animals and grind flour at the huge stone mill, as well as operate stores for shopping, and an old inn.

Just north of Toronto, in Kleinburg, is an outstanding collection of paintings by Canada's Group of Seven, Tom Thomson and their contemporaries. The hewn-timber gallery is set in a 600 acre park and is one of the most popular attractions in the region.

National Convention exhibits open Sunday, October 6

This year, there will be extra time for registered dentists and auxiliaries to explore the huge dental exhibition area of the Four Seasons Sheraton. The CDA convention exhibition will open earlier than usual this year, immediately following the formal opening.

No clinical events have been planned for Sunday, October 6 and delegates will have that time for a first visit to the full 182 exhibits, to see and inspect the latest in dental products and services. It is the largest such exhibit in Canada and is one of the outstanding features of the national convention.



VIEWPOINT

Search for safety

In 1970 the Canadian Standards Association named a committee to establish standards for athletic equipment. This committee embraced representatives from sporting goods manufacturers, the CHA, NHL and from the engineering, medical and dental professions. The first project of the CSA committee was to establish standards for hockey helmets. Manufacturers were given the opportunity to have their headgear tested in the CSA laboratories and if approved to wear the CSA stamp. The CSA program is aimed at encouraging further research in the development of better athletic equipment. Consumers concerned about the mishaps which may fall upon the heads of their aspiring hockey players no doubt looked forward to the day when the CSA standards would be set and helmets wearing the stamp of approval would appear on the market. Not only would a consumer, who was bewildered by the controversy over head protection, find comfort in a standard which assured him his purchase was the best he could make, but manufacturers would welcome it for only consumer confidence would ensure their survival. It was hoped that by the CSA program much of the poor athletic equipment — some of it endorsed by professionals — would be withdrawn from the Canadian market.

After three years of study, the CSA committee have set up standards and devised testing equipment for this project. On October 26, the federal department of Consumer and Corporate Affairs announced that "hockey helmets sold after January

1, 1974 must meet the safety standards regulations of the Hazardous Products Act." It was the CSA committee which developed the standards which form the basis of the regulations.

To date helmets which have passed the standards are:

1. C.C.M. Pro Guard
2. Cooper S.K. 300
3. A.G. Spalding Helmet Model 82-801, Model 82-802
4. Protective Products M.H.H. (Mikita Helmet).

The next project of this CSA committee will be to initiate work on a standard for face protection for hockey. A number of ophthalmologists have expressed concern over the number of injuries to hockey players' eyes and they are willing to participate on a task force to establish performance criteria for eye protection equipment. Members of the dental profession are also concerned with the inadequacy of some of the protective equipment on the market. Some studies have indicated that in hockey the mouth is the most vulnerable region of the body. It sustains 16 per cent of all injuries. Nine per cent of all injuries are to the teeth. It has been suggested that a task force consisting of dental experts could establish criteria for mouth protection. At a meeting of representatives of the medical and dental professions to be held this month, task groups will be asked to set up performance criteria for facial protection in hockey. It is gratifying that the dental profession will be active participants in this project.

*A. W. S. Wood, DDS, FRCD (C)
2 Dunbloor Rd.
Islington, Ontario
Dental Representative for CDA to CSA*

EXECUTIVE DIRECTOR'S PAGE



W. G. McIntosh, DDS

CONTINUING SERIES ON CDA SERVICES

Dental Research

Although the Association is not directly involved in the funding of research projects, it does promote and encourage dental research in a number of ways.

It has, since 1967, given an annual grant to the Canadian Fund for Dental Education to be awarded by CFDE as fellowships to dentists wishing to prepare themselves for careers in dental teaching and/or research. These grants replaced the former CDA Research Studentships which the Association administered prior to 1967.

It contributes by collaboration with the Association of Canadian Faculties of Dentistry and by partial funding to the biennial research conferences which have been growing in size and importance since the first conference in 1960. Dental researchers from all dental schools in Canada participate. New projects are presented. A co-ordination of research interests and talents is thus made possible.

It administers the Canadian Dental Research Foundation award program. A prize is offered annually for the best original research project completed by a postgraduate or graduate dental student at a Canadian university. In addition to a monetary award, the winner receives a plaque suitably inscribed. The university department in which the research was conducted also receives a plaque which is retained for a year and then turned over to the next year's award winning department.

It regularly surveys dental research activities in Canada, including personnel, physical facilities and funding. Dissemination of this information has provided a stimulus in generating greater research involvement by both individuals and institutions.

The Council on Research and its committee on Standards for Dental Materials and Devices are the two agencies responsible for the Association's research endeavours.

Question No. 14

1. Do you think CDA should be encouraging dentists to become dental researchers and/or dental teachers by helping them finance their graduate or postgraduate training programs?

2. Do you think CDA should be promoting dental research in Canada by actively participating in research conferences, the CDRF award program and national research surveys?

As this is the last in the current series of articles which began in the July, 1973 issue of the Journal, I would like once again to thank those readers who have responded to the questions. Some readers may be waiting until all the questions are asked before responding. I would appreciate receiving your answers now, along with any additional comments that might help the Board of Governors chart the Association's future course.

Perhaps it is important to state that the topics selected for inclusion in the series are by no means a complete list of services and programs presently being provided by the Association. Nor have my comments provided any more than the barest outline of those topics that have been mentioned. My intention as originally stated, was to be brief, factual and without personal evaluation.

The topics have been, however, representative of the widely diversified areas of interest for which the Association has gradually assumed responsibility. Maybe they are too diversified. Maybe not diversified enough. Your responses will help to answer these all important questions.

Your opinion is valuable. In order to share it with others, letters to the Executive Director may be used in the Journal, *unless the writer specifies otherwise.*

This is the last of a series of articles on CDA's programs and services.

FEEDBACK

The Question:

Should the Association publish a bilingual dental Journal for its members?

Your answer:

Since the great majority of dentists in Canada are unilingual English, their interest in the French content of the Journal remains very remotely cultural. For some, it may even be annoying to be obliged to turn French pages.

I understand it must become very discouraging for you at times to serve Canadian dentistry with a shrinking budget. The French content of the Journal is expensive and maybe dentists in Quebec do not realize the amount of interest they should have in CDA. We are living in a difficult time, and it would be inappropriate for CDA to make it worse.

When Ontario dentists were trying to reduce their fees to CDA, we felt it was time for CDA to spend thousands and thousands of dollars in a public relations program to improve its image. Perhaps this program came too early or too late for French dentists, but if the French content of the Journal is just a question of dollars, the solution is simple.

Much more important is the quality of the content. It must reflect the contribution dentists in this area of the country are making to dentistry. It must be close to their regional problems and share them with colleagues. It must convey their way of thinking, it must be a reflection of their own image.

Without any prejudice to those who have carried the responsibility, we must admit that the interest

in the French content of the Journal is low. They have worked under difficult circumstances and we must admire their courage.

If the CDA wants to fulfil its national obligations to continue to serve Canadian dentists in their own language, the Journal should remain bilingual and be improved in its French content.

No doubt CDA needs a better French image. Dentistry in Canada needs a united voice. This need can be fulfilled without using our two languages as weapons against each other. On the contrary, we should be proud of them and make better use of them for better achievements in the future.

Lucien Bossé, DDS, MS
345 Ave. Dorval, Suite 2
Dorval, P.Q.

The Question:

Do you think your Association should sponsor national workshop conferences for the exchange of ideas pertinent to the practice of dentistry?

Your Answer:

The national organization is the only realistic group to hold and promote national seminars for the exchange of ideas and ideals pertinent to dentistry.

Dentistry in Canada needs the CDA as an active, viable organization to work for and with the provincial dental bodies.

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Ottawa, Ontario

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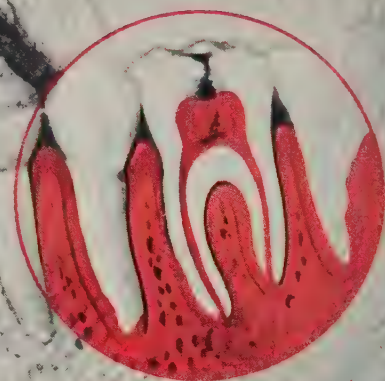
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“Clindamycin [Dalacin C] appears to be an acceptable substitute for penicillin as a prophylactic antibiotic prior to oral surgical procedures in patients with true or alleged allergies to penicillin when antibiotic treatment is indicated.”¹

1. Wiesenbaugh, J.M., Jr. (Mar., 1971). 37(3):302.

Upjohn

Dalacin C

Capsules, Flavoured Granules, Injectable for prompt control of streptococcal throat infections

Indications: Dalacin C is indicated in infections caused by organisms susceptible to its action, particularly streptococci, pneumococci, and staphylococci. In addition to the above organisms, Dalacin C Phosphate Sterile Solution is indicated in certain infections due to anaerobic bacteria, including *Bacteroides* species, *Peptostreptococcus*, anaerobic streptococci, *Clostridium* species and microaerophilic streptococci. As with all antibiotics, *In-vitro* susceptibility studies should be performed in conjunction with clindamycin therapy.

DOSAGE AND ADMINISTRATION:

DALACIN C CAPSULES

Adults:

Mild to moderately severe infections — 150 mg every 6 hours.

Severe infections — 300 mg or more every 6 hours.

Children (over 1 month of age):

Mild to moderately severe infections — 8 to 16 mg/kg/day divided into three or four equal doses.

Severe infections — 16 to 20 mg/kg/day divided into three or four equal doses.

DALACIN C PALMITATE Flavoured Granules for oral solution

Children (over one month of age): 8-25 mg*/kg/day divided into three or four equal doses.

*Depending on the severity of the infection. See C.P.S. 74 for complete dosage information.

DALACIN C PHOSPHATE STERILE SOLUTION

Adults:

Intramuscular — 600 to 2400 mg**/day in two, three, or four equal doses. Intramuscular injections of more than 600 mg in a single site are not recommended.

Intravenous — 900 to 4800 mg**/day by continuous drip or in three or four equal doses, each infused over 20 minutes or longer. Administration of more than 1200 mg in a single one hour infusion not recommended.***

Children (over one month of age):

Intramuscular — 10 to 30 mg**/kg/day in two, three or four equal doses.

Intravenous — 15 to 40 mg**/kg/day by continuous drip or in three or four equal doses, each infused over 20 minutes or longer.***

**Depending on the severity of the infection.

***Dalacin C Phosphate Sterile Solution should not be given undiluted intravenously; always administer in an infusion. See product monograph supplied with each package for complete dosage information and infusion rates.

Absorption of Dalacin C is not appreciably modified by ingestion of food and Dalacin C may be taken with meals with no significant reduction of the serum level.

Note: With β -haemolytic streptococcal infections, treatment should continue for at least ten days to diminish the likelihood of subsequent rheumatic fever or glomerulonephritis.

Cautions: Generally well tolerated. Usual antibiotic side effects — abdominal discomfort, loose stools or diarrhoea, nausea, vomiting. Cases of severe and persistent diarrhoea have been reported and have at times necessitated discontinuance of the drug. This diarrhoea has been occasionally associated with blood and mucus in the stools and has at times resulted in an acute colitis. Transient neutropenia (leukopenia), or abnormalities in liver function tests have been observed in a few instances. Mild hypersensitivity reactions (skin rash and urticaria) have been observed on rare occasions.

Use with caution in patients with a history of asthma and other allergies. As with other antibiotics, periodic liver function tests and blood counts should be performed during prolonged therapy. Not indicated in patients who have demonstrated sensitivity to lincomycin. Safety in pregnancy not established. Dalacin C is not indicated in the newborn. When Dalacin C Phosphate is administered to infants, appropriate monitoring of organ system functions is desirable.

AVAILABILITY:

DALACIN C CAPSULES

150 mg Capsules — Each capsule contains clindamycin hydrochloride hydrate equivalent to 150 mg clindamycin base. Supplied in bottles of 16, 100 and 500.

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FLAVOURED GRANULES

Dalacin C Palmitate — When the contents of the bottle are dissolved in the quantity of water indicated on the label, each 5 ml contains clindamycin-2-palmitate hydrochloride equivalent to 75 mg clindamycin base. Supplied in 60 ml and 100 ml bottles.

INJECTABLE

Dalacin C Phosphate Sterile Solution — Each ml contains clindamycin-2-phosphate equivalent to 150 mg clindamycin base. Supplied in 1 ml and 2ml ampoules. Detailed information available upon request.

LETTERS TO THE EDITOR

Cancer of the Mouth

I have been reading with interest the latest issue of the Journal of the Canadian Dental Association, March 1974, Volume 40, Number 3, and particularly your editorial "The Way Ahead", dealing with the very important compendium "Cancer of the Mouth" published in the current issue, which I agree should be read, re-read and mastered by every dentist.

My reason for writing is that the two FDI publications, sent to you under separate cover:

1) Early Detection of Oral Cancer (published in four languages)

2) A Symposium on the Early Diagnosis of Oral Cancer (English) appear to be not worth mentioning in relation to the compendium "Cancer of the Mouth".

The booklet, "Early detection of Oral Cancer", has been circulated all over the world and we have sold or distributed over 100,000 copies.

The Symposium is now being distributed to every dental school in the world.

Dr. G.H. Leatherman

Executive Director

Fédération Dentaire Internationale

Editor's reply

Thank you for your kind letter commenting on the March issue of the CDA Journal. I appreciate your reference to the FDI publications and intend to publish your letter as the best way to publicize them. I hope you understand that the CDA material was put together for us as the authors wished to write it — I can believe it is possible some of them did not even know of the FDI publications, which of course would have been very worthwhile recommending (not just mentioning).

The moral is that I think somehow in this country there has not been enough publicity given to FDI publications. Could you have a complete listing sent to me so that we can publish it for you?

R.M. Grainger

Editor

"Dental appointment in Bolivia"

Many thanks for your magazine, and still more, for the attention given to our efforts. It is certainly an honour to appear on the front page of your Journal. Not many professional people would so tolerantly and kindly observe our work, including its imperfections and our needs.

Dr. Esperanza Aid... is just now setting up a somewhat more complete dental service in the lower floor of our small clinic building in La Paz, and trying to assemble the necessary instruments and materials: she does have a dental chair and unit, although, as she says, of almost prehistoric vintage.

Dr. Ruth W. de Tichauer

La Paz, Bolivia

NDEB replies

I feel constrained to reply to the comments made by Ivan Hrabowsky on the National Dental Examining Board in your March 1974 issue. The NDEB is responsible primarily to the licensing bodies of each province. These bodies are all very much aware of the new Bill and have given their approval in principle to it. I may also add that this Bill does not "increase the powers" of the NDEB, but rather enables the NDEB to be of more service to the profession.

I would agree with Dr. Hrabowsky that one of the prime benefactors of the Accreditation Program are the Provincial Dental Licensing bodies (NDEB) and to this end the NDEB is increasing its grant to CDA as rapidly as possible in order to support accreditation policies to the highest extent. We have doubled our contribution from \$4,000 to \$8,000 in the last three years and hope to increase it more as each year goes by.

I hope this will clear up some of Dr. Hrabowsky's questions.

Donald B. Proctor

National Dental Examining Board of Canada

287 MacLaren St.

Ottawa, Ont.

FEDERAL CHANGES IN SCIENCE POLICY

The Throne Speech in the current session of Parliament presaged government plans to strengthen the Ministry of State for Science and Technology to ensure a more efficient use of human resources and scientific activities in the pursuit of Canada's national goals. Proposed legislation will effect the Medical Research Council (MRC) which has traditionally provided financial support for research in dentistry as well as medicine and pharmacy.

Financial assistance from the National Research Council has normally been in the form of grants-in-aid and post-doctoral training fellowships. Salary support is sometimes given to a limited number of highly qualified career researchers in the universities. In 1973, for example, \$37.5 million was awarded by MRC.

Government proposals with respect to MRC are based on the fact that the MRC, like the NRC, is faced with an increasing amount of inter-disciplinary research. To better fulfil the objectives of the federal science policy, the government is proposing that MRC's granting operations be co-ordinated with those of other granting councils through an Inter-Council Co-ordinating Committee.

Two new councils will be created from the present NRC and Canada Councils. The new councils will be known as the Social Sciences and Humanities Research Council and the Natural Sciences Research Council. The National Research Council, for its part, will relinquish the task of making grants but will continue to provide, through its laboratories and other activities, a research capability and a broadly-based source of expertise in natural sciences and technology. The Science Council, which has concentrated on acting as adviser to the government, is to become a more national body with greater attention

to its public information role. Mme. Jeanne Sauvé, Minister of State for Science and Technology has stated that the changes announced in the Speech from the Throne are primarily organizational and are aimed at a more efficient deployment of Canadian scientific manpower and resources.

She said, "It is inevitable, however, that any change in organizations of long standing may be construed by some as criticisms of these organizations. Such criticisms are certainly not intended and would be totally unjustified. The agencies involved in the proposed changes, primarily the NRC, Canada Council, Defence Research Board and the Science Council, have all achieved high recognition and the NRC in particular must be credited with the responsibility for encouraging and supporting the development of Canada's present high level of scientific competence."

DEMONSTRATION OF AUXILIARY UTILIZATION

Demonstrating and encouraging the use of the expanded-function hygienist and assistant was the objective of a successful two-day continuing education course, held in March, at Dalhousie, Faculty of Dentistry.

Clinicians were members of the Department of Restorative Dentistry, Division of Pedodontics and the School of Dental Hygiene. Also participating were G.D. Barrett of Charlottetown, R.G. Romcke, director of Dental Public Health for P.E.I. and Mrs. Joan Diffley, co-ordinator, Dental Assisting Program, N.S. Institute of Technology.

Dentists, hygienists and assistants attended and, following the didactic portion of the program, were given a demonstration of the dental team operating in a clinical situation.

Canadian Dental Association Student membership enrolment

	No. of Students Enrolled at Faculties of Dentistry	February 1974 Enrolment	Percent	February 1973 Enrolment
Western Ontario	188	168	89.4	120
Toronto	502	397	79.0	376
Saskatchewan	55	28	50.0	10
Manitoba	122	36	30.0	33
British Columbia	151	48	31.8	47
Dalhousie	105	44	42.0	45
Alberta	185	88	48.0	96
Laval	31	7	22.3	6
McGill	156	56	36.0	67
Montreal	322	51	15.8	63
TOTAL	1,817	923	50.8%	863

Quebec dentists enter children's dental plan

The Quebec Dental Surgeons Association has signed an agreement with the Ministry of Social Affairs to launch a program of free dental care for children in May. The Quebec Association of Oral Surgeons, also involved in the plan, concluded their agreement with the ministry, last September.

The program will provide care in the private office as well as the hospital and will be administered by the Health Insurance Commission of Quebec. The \$9 million cost has already been budgeted for the coming year and there will be no resulting increase in personal contribution payments by Quebec citizens. Only criteria for eligibility to the program is age — a child is eligible from the date of his birth until his eighth birthday.

Mr. Claude-E. Forget, minister of Social Affairs, has pointed out the plan's important significance lies in its potential to provide better access to dental care throughout the province. "I hope," said Mr. Forget, "that these agreements are but the beginning of a vast collaboration which will permit not only the provision of adequate care to the population, but also a better access to dental care in all regions of Quebec."

A better distribution of dentists, Mr. Forget emphasized, is imperative in a province where an area such as Metropolitan Montreal enjoys the services of one dentist per 2,000 inhabitants (1971 figures), while one lone dentist serves 10,000 inhabitants in the region of Côte-Nord. The children's program is viewed by Mr. Forget as the beginning of an offensive which will make the population more aware of the importance of preventive dental care.

"The new program," the minister said, "will not limit itself to the extraction of teeth. On the contrary, it would be incomplete if it were not ac-



Corporal Dawn Duncan of the Canadian Forces, recently awarded the National Dental Nurses' Certificate, is the first dental assistant to receive civilian certification at the national level. Such certification can be obtained only after completing advanced studies. The Director General of Dental Services, Brigadier-General Lawrence G. Craigie, made the presentation. A member of the Canadian Forces since 1968, Cpt. Duncan is presently stationed at Canadian Forces Base Esquimalt, Victoria, B.C.

companied, in the near future, by measures having a marked preventive effect, achieving finally a decrease in curative care, which is always only a last resort."

In a movement toward this goal, the agreement with the Quebec Dental Surgeons Association provides compensation for the teaching and demonstration of oral hygiene measures in the private office, the cleaning of teeth, the topical application of fluoride and other similar measures.

The current collaboration of dental surgeons in the children's program anticipates the adoption of an overall oral health policy which should lead to the creation of a complementary program of dental care. This program will eventually reach the entire school-age population.

In view of such a policy, Mr. Forget intends to propose the re-opening of the question on fluoridation. Only 12.7 per cent of the Quebec population now consumes fluoridated water.

PROSTHODONTISTS' ANNUAL MEETING

D.V. Chaytor, secretary-treasurer of The Association of Prosthodontists of Canada, has announced the Association's annual meeting for October 4-6 at the Hyatt Regency Hotel, Toronto. October 4 will be a joint specialties meeting and October 5-6 a joint meeting with the Canadian Academy of Prosthodontics. Additional information can be obtained from George Zarb, Faculty of Dentistry, 124 Edward Street, Toronto, Ontario.

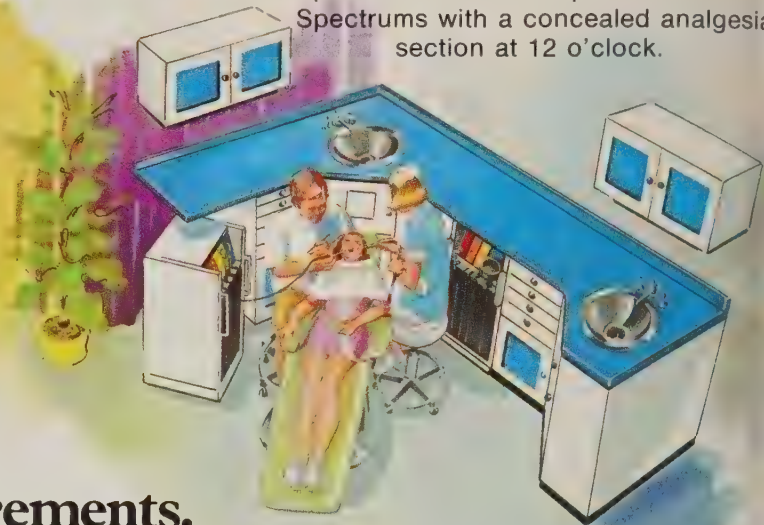
Executive Council for the Association includes: Donald Kepron, of Montreal as president; George Zarb, Toronto as president-elect; Jacques Fiset of Montreal, as vice-president; Dr. Chaytor of Halifax as secretary-treasurer, and William Harley of Edmonton as junior delegate-at-large.



Two dentists formed a joint practice. Both work seated, with full time assistants. Both prefer forward instrumentation delivery without reaching over the patient. They wanted interchangeable operatories but with flexibility to individualize. Solution: Spectrum Split Consoles, "hi-lo" design. (Dr's. console 33½"; Assistant's console 37" high.)

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A fifty-five year old dentist wanted to convert gradually to sit-down dentistry with forward delivery. Solution: Split Spectrum Consoles with "hi-lo" design. "His" console 33½" high, "Her" console 37" high.

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FOULKES' REPORT PROPOSES FLUORIDATION

Major dental recommendation, in the recent health report to the B.C. Minister of Health by Dr. R.G. Foulkes, was the joint development of a children's dental care plan by the government and the College of Dental Surgeons of British Columbia. This was reported in the April Journal of the Canadian Dental Association. As a follow-up to that report, the College has summarized some of the other recommendations in the report which will also have implications for dentistry.

As a direct corollary of the proposed Children's Plan, mandatory fluoridation of water supplies was proposed with government grants to cover cost of installing approved equipment.

Dr. Foulkes also recommended that community human resource and health centres include dental care. He proposed that the government and the profession negotiate a salary scale and sessional rate for dentists employed in these centres. The centres would be organized as a network and provide all forms of health and social services.

"To achieve the objective of comprehensive health care for British Columbians," says the report, "all required prescription drugs, prosthetic, orthotic and similar appliances, hearing aids, prescription ophthalmic supplies and dentures (in that sequence of priority) should be supplied free of charge to all who are eligible for medical care and hospital coverage."

Dr. Foulkes suggested all health professionals be more adequately represented on councils, boards and committees directly related to the health security of B.C. citizens.

A Health Disciplines Regulation Board was proposed, with present professional Colleges as divisions responsible to the HDRB. Public representation on these boards is recommended. On the HDRB, itself, there would be three to five members — the majority being representative of the public rather than the health professions.

Health Minister Dennis Cocke has indicated the report should generate considerable study and discussion by the government and all involved in health care.



Panalipse X-ray machine is adjusted on patient at Sunnybrook Medical Centre, where capacity is now 500 patient-visits per month.

Sunnybrook facility triples dental capacity

The patient treatment capacity of the dentistry department at Sunnybrook Medical Centre, Toronto, has more than tripled now that renovations have been completed.

Dr. J.H.P. Main, head of the department, spoke at the opening of the new department saying the number of patient visits per month is expected to rise from 150 per month in 1973 to about 500 per month this year.

"We offer a very specialized service to the general, dental and medical publics," he said. "We accept patients with medical problems, who must have their dentistry done in a hospital situation, due to the hazards involved."

The new department is involved in treating unusual diseases of the mouth, in co-operation with Sunnybrook's Mouth Clinic. This overlap between dentistry, dermatology and otolaryngology involves investigations of mucosal disorders, cysts, tumors, infections and salivary gland diseases.

At the opening was Dr. R.L. Moran, president of the Ontario Dental As-

sociation. Members representing the North Toronto Dental Society and the Academy of Dentistry also attended.

The department is equipped with three surgeries, designed to handle walking, wheel chair, stretcher or bed patients.

Staff for the department includes Dr. Main, a specialist in oral pathology; Dean Dover, an oral surgeon; J.D. Anderson, a specialist in making prosthetic appliances for people with either congenital or surgical mouth problems; and R.D. Beveridge and David Mock, both general dental practitioners. The department also teaches 30 undergraduates who get a part of their clinical dental, medical and surgical backgrounds there.

"There are thousands of people in Ontario with heart conditions who should be treated in hospital," Dr. Main said. "We're happy to provide this expanded service to the public. In an emergency, we can save minutes, where the loss of time can't be afforded."

HEPATITIS B SAID OCCUPATIONAL HAZARD

Saskatchewan dentists have been advised by Dr. Hugh Robertson, Director of the Provincial Laboratory, that hepatitis B is an occupational hazard for the profession.

Dr. Robertson has advised the College of Dental Surgeons of Saskatchewan that one to three per cent of dentists in France are reported to be carriers of the hepatitis antigen. Dr. Robertson believes it would be worthwhile to survey provincial dentists to discover any carriers.

It has long been known that hepatitis is spread by the parenteral route but there is now evidence it may also be spread by the aerosol route. The high speed drill and the aerosol it produces from both water spray and saliva may well be a potential hazard not recognized by dentists. Chairside assistants are also subjected to this hazard.

A practising dentist who is a hepatitis antigen carrier should take extra precautions such as wearing a face mask and scrupulously carrying out hygiene practices to prevent any spread of the disease.

Exposure to hepatitis virus type B, the agent of serum hepatitis, may be increasing. Studies with the recently developed test for the Australian-antigen marker of serum hepatitis reveal many more ambulatory carriers than would be expected from the number associated with known cases of serum hepatitis. Not only is the blood of such carriers laden with virus, as long suspected, but other specimens such as urine, saliva, semen, feces and tissues may contain the virus. These findings fit the growing body of experimental and epidemiological evidence which indicates this type of viral hepatitis may sometimes be acquired by the oral or respiratory route as well as by the parenteral route.

\$4.7 clinical facility for University of Saskatchewan

The University of Saskatchewan has received provincial government approval to build a clinical facility for the College of Dentistry, in Saskatoon. The facility, expected to cost some \$4.7 million, will be started next spring and should be completed in the spring of 1977.

The dental clinic, which will replace temporary facilities opened in 1971, will be housed in a separate structure linked to the Health Sciences Building. It will occupy approximately 46,000 square feet of floor space taken up with classrooms, laboratories, faculty offices, student amenities, and a professional practice suite. In it, dental students at the undergraduate and postgraduate levels will be instructed in clinical procedures, practising dentists will take continuing education

courses, and a professional dental practice will be conducted.

Dental chairs and associated equipment will be provided for supervised general work in dentistry and such special functions as diagnosis, x-ray, and surgery. With the new facilities, the College of Dentistry will be able to admit 25 first-year students annually, compared with only 11 at present.

Basic science and pre-clinical instruction will continue to be given in the Health Sciences Building, where the College of Dentistry has its headquarters and where its programs are integrated with those of the College of Medicine. The clinical programs in dentistry and medicine are also integrated and to ensure that this continues, the new building will be closely associated with a major addition to the University Hospital.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on March 31, 1974:

Guaranteed Fund \$10.779;

Fixed Income Fund \$14.404;

Common Stock Fund \$30.177.

Total assets (market value) of the plan were \$18,745,449.28.

The following portfolio purchases and sales occurred during the preceding month: bought: 410,000 units Royal Trust Company GIR; 12,149 units Classified Fund Fixed Income; 17,015 units Classified Fund Conventional Mortgage; \$400,000 interest bearing note Export Development Corp; 5,250 shares MacMillan-Bloedel; 2,000 shares Rio Algom Mines; \$600,000 Dow Chemical Company note; \$200,000 General Foods Ltd. note; \$500,000 Ford Motor Credit Co. note and \$500,000 General Motors Acceptance Co. note. Sold: 2,000 shares Consolidated Foods; \$600,000 Imperial Oil Co. note; 80,000 units Royal Trust GIR; \$400,000 Export Development Corp. note.

For further information write to CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto, Ont. M5R 2P1.

Deaths

Bernstein, Frederick. 29. Montreal. McGill University, 1969.

Bourdon, Emile. 78. Quebec City. Laval University, 1918.

Burt, James Alexander. 47. Windsor. University of Toronto, 1954. 3-4-74.

Dent, Charles Sidney. 89. Victoria. University of Oregon, 1913. 3-4-74. Survived by Errol and Dr. Robert J. (sons); Mrs. E. F. Ballam (daughter); Mrs. Gertrude Bews (sister).

O'Brien, Chester Raphael. 83. Buena Park, Calif. (formerly of Balmertown, Ont.) Royal College of Dental Surgeons of Ontario, 1914. 10-2-74.

Rupert, Ernest Arthur. 74. Toronto. Royal College of Dental Surgeons of Ontario, 1922. 28-3-74. Survived by Irma (wife), Mrs. Janet Harrott and Mrs. Joan Lopenon (daughters).

Town, John William. 39. Woodstock, Ont. University of Toronto, 1959. 7-2-74. Survived by Nancy (wife), Mrs. James A. Town (mother), David and Brian (sons), and Carol (daughter).

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WHY YOU MUST CONSIDER MALPRACTICE INSURANCE

The first concern of any dentist, whether in private practice or on a salary, should be his "malpractice" or, as it is sometimes called, "errors and omissions" insurance. A general practitioner must perform his service with the due care and degree of skill usually expected of the average dentist in his locality. A dentist presenting himself as a specialist or limiting his practice is expected to have judgment and skill beyond that of the general practitioner. Failure to exhibit such expertise, whether actual or supposed, may result in legal action being taken against him.

Errors and accidents do occur and certainly results don't always come out as well as expected. In such cases, the patients may sue the dentist for compensation especially if the poor result causes them inconvenience or discomfort. In court, the testimony of an expert witness is used. His judgment as to the degree of skill required or the negligence involved could play an important part in the outcome of the court's decision.

Canada has been very fortunate that people have not become "sue conscious." In the U.S.A., where California physicians pay malpractice insurance premiums of \$5,000 a year, one man, a laborer, was recently awarded \$2 million against an orthopedic surgeon. There was another case reported in New York where a general practitioner was successfully sued for not sending a patient to a periodontist. When you consider that the average Canadian dentist, retiring at age 65 or older, probably has not grossed over \$1 million in a lifetime, it gives you something to think about.

You may ask why our "suability" is broadcast by advocating malpractice insurance. We are not trying to advertise the profession's potential for suits,

but we are trying to encourage malpractice protection. One important reason is that consideration is being given in at least one province to new legislation which will lengthen the time required by the statute of limitation. This will mean the patient will have a longer time to make up his mind before entering a claim for damages.

Compulsory malpractice insurance is being considered by licensing bodies in some provinces. The term compulsory malpractice insurance implies that group malpractice insurance is purchased with funds collected from dentists as part of their licence fee. No insurance — no licence!

Those who support this concept believe the public interest is protected by assuring provision for compensation to the patient should he or she suffer an injustice or injury at the hands of the dentist or his staff. There is obvious merit in this approach, but one may ask whether in such an arrangement, the emphasis is on protecting the victim or on protecting the dentist? It is legally difficult if not impossible to do both at the same time especially if there is an element of "blame."

Another conflict of interest may arise in situations where dental legal protective associations are funded by licence fees. The purpose of the legal protective associations is to provide the dentist with sound legal advice and assistance. They do not provide insurance should the dentist be proven to be at fault.

Here again, the licensing authority which is legally required to protect the public is at the same time playing an active role in protecting the dentist. Can it do both at the same time?

Compulsory malpractice insurance also raises the question of freedom of

choice. Under certain circumstances a dentist may choose to hold a licence to practice with no intention of utilizing this privilege. For example, dental educators, researchers, administrators and so on. These dentists would have no need of malpractice insurance. Some dentists may also prefer to independently purchase their malpractice protection, perhaps from some other company and in different amounts than that available through the licensing body's group plan.

All practising dentists should carry malpractice insurance. Making the coverage compulsory through the dentists' licensing authority is questionable.

Does the malpractice insurance obtained through the national/provincial insurance programs cover a dentist's auxiliaries? The answer is yes. All employees including hygienists, certified dental assistants, and denture therapists who are directly employed and under supervision of the dentist, as defined by the licensing body, are covered providing they are performing a legal service.

If an auxiliary who performs intra-oral procedures is not sure whether his or her dentist-employer carries malpractice insurance, or if he or she works for several dentists one or more of whom may not be insured, it is recommended that the auxiliary carry his or her own malpractice coverage available at the modest rate of \$12.00 per year.

Certainly a person, dentist or auxiliary, would be very foolish to practise without malpractice insurance and particularly since the premium with the CDA national/provincial group insurance is so reasonably priced.

A report on liability insurance and preventive maintenance will be issued next.

These articles are supplied to the Journal by Dr. O.F. Wright of Vancouver. Dr. Wright is publicity chairman for the Canadian Dental Association's Council on Insurance and Investment.



DALHOUSIE TEACHER FIELD TRAINING

The Dalhousie Mobile Children's Dental Clinic has taken its services one step further in an experimental program at Lakeside School, Beechville. While the Clinic was treating children at the school, a preventive program was initiated in the classroom to help the children benefit as much as possible from the treatment provided. Teachers were trained and then made responsible for this aspect of the program, under the guidance of staff from the Dalhousie Faculty of Dentistry and School of Dental Hygiene.

Initially, an oral hygiene index was carried out for evaluation purposes, as well as for the practical experience afforded the first-year dental hygiene and second-year dental students involved. The preventive program introduced Lakeside teachers to the concept of prevention and its essential role in the maintenance of dental health, the theory behind tooth decay and periodontal disease, and the re-

cognition and elimination of causative factors through brushing, flossing and nutritional habits.

Each teacher received an individual plaque control appointment and was taught the necessary procedures. Each was then asked to prepare toothkeeper kits, and to begin their programs in the classroom. All classrooms were visited by the Dalhousie staff to enquire about problems and to further encourage the children and teachers to become involved. During the final week, each classroom watched an audio-visual presentation on dental health.

In a move to reinforce and help sustain the Lakeside teachers' motivation, each received an appointment, on a voluntary basis, to receive a professional oral prophylaxis and patient education review from the dental hygiene students at the Dalhousie Dental Clinic.

Manitoba joins CDSPI

According to the year-end report of the Manitoba Dental Association, their insurance consultant has advised that, after thorough investigation, the "best arrangement" they could make for group disability insurance would be through CDSPI.

The problem arose when the association's recently appointed carrier notified members it would no longer carry their disability policy because of several factors. While favorable reserves had built up for many years and surplus funds distributed to participants, the pattern had been changing recently. Figures for 1973 showed claims of approximately 127 per cent of premiums. The preponderance of

older members in the Plan and a relatively lower enrolment of younger, new members gave a less-than-favorable projection for the future. In addition, the small number of members, on which to draw, was a disadvantage.

Arrangements made with CDSPI included taking all present participants without requiring medical qualification; with no lapse of coverage during the changeover period. While basic coverage is to remain the same, there are now additional options. The new premium structure is based on CDA experience with 7,000 members, balancing out any discrepancies of smaller units.

Winter Medical-Dental Assembly considered great success

The sixth Annual International Meeting of the Winter Medical-Dental Assembly was held in Mont Gabriel Lodge in the Laurentians, March 2-9, attracting practitioners and specialists from all fields of medicine and dentistry. Since the permanent theme of the Assembly is "Communications in the World of Medicine and Dentistry Today," A.T. Wachna, M.D., North American chairman, is pleased to report that the calibre of speakers and the hospitality met with enthusiastic approval.

One of the best papers on dentistry was presented by Benjamin Recant, an oral surgeon from Long Island City, N.Y., who incorporated slides and movies to deal with the subject of "Vestibuloplasty for the atrophic mandible". W.F. Walford, a periodontist from Montreal, also used slides to discuss "Oral manifestations of systemic diseases;" while France Alexandre, M.D., of St. Louis outlined many other conditions which can be diagnosed by careful examination of the mouth. Pierre Franchebois, M.D., D.D.S., University of Montreal, presented an excellent paper on the "Diagnosis of early diseases" including a discussion of methods now being developed in France which are useful for detecting salivary diseases.

Current plans have the 1975 meeting slated for the week of Jan. 28 — Mar. 8 in Havana and Varadero Beach, Cuba. The 1976 meeting will be held in Peking, Peoples' Republic of China.

Saskatchewan offers dental assistants' correspondence course

The College of Dental Surgeons of Saskatchewan plans a two-year correspondence course in dental assisting for all presently employed dental assistants. Among the monthly requirements will be written, practical and clinical assignments.

The course is open to all interested assistants presently employed in a dental office and who forward their names immediately. Further information is available from the College at 811, 105 — 21st Street East, Saskatoon, S7K 0B3.

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PROPOSAL FOR A CORE AUXILIARY PROGRAM

W.H. Feasby, DDS, MSc, FRCD(C)

Professor and chairman, Department of Paediatric Dentistry, University of Western Ontario, London, Ont.

The increased utilization of dental auxiliaries presents a number of related problems. Issues such as "What services should be delegated?" "How much training is required?" "What regulations and legislation should apply?" and "What is the extent and identity of each classification?" await solution by dental educators, organized dentistry, organized dental auxiliaries, and legislators. The proliferation of the variety of dental auxiliaries across Canada is further complicating this problem.

The proposal that follows is submitted with the intention of providing some positive direction towards the development of a concept that can receive general support. It is assumed that for the next generation, at least, dentistry in Canada will be delivered primarily in private offices staffed by one or two dentists. It is also basic to this proposal that the profession can adopt the principle of "ultimate responsibility"¹ which enables a dentist to delegate any procedure for which he is prepared to accept responsibility to a properly trained auxiliary.

PROPOSAL

1. It is proposed that:

A. A Core Dental Auxiliary Program of one academic year be developed to produce dental assistants trained as receptionists and chairside assistants. The program will provide all the basic knowledge and experience necessary and will probably be conducted by community colleges.

B. Supplementary programs be developed which would enable the dental auxiliary to augment qualifications with various groups of skills, including various intraoral procedures. These would be additional "packages of instruction" of varying lengths (one, two or three months) and would include dental radiography, orthodontic assisting (cementing bands, ligating, etc.), prosthetic assisting (impressions and bite registrations), preventive procedures (oral hygiene instruction and diet counselling), periodontal procedures (scaling and packing).

While a number of these programs could be conducted in community colleges, those with a heavy clinical component should be based in teaching clinics of faculties of dentistry.

C. The classification of auxiliaries and the training programs should be standardized across Canada and should result in programs that can be accredited at the national level. These developments should conform to the recommendation of the "Wells Report" (1970).²

DISCUSSION

Implementation of these proposals will permit each dentist or each jurisdiction to acquire appropriately trained personnel. This should prevent the production of over-trained and under-utilized dental auxiliaries. Both the dentist and the dental auxiliary would have many options available. This proposal avoids the problems inherent in the "career ladder"³ which is a linear series requiring that any one phase be the prerequisite of the following phase. The flexibility and lateral mobility should prove highly attractive to potential dental auxiliaries. It would then be possible to staff a small one- or two-dentist office which would require a variety of auxiliary skills but which could only afford a very small staff.

CONCLUSION

While the above proposals are not original and may suffer from over-simplification, it should be easily understood as a concept that could receive general support. Perhaps, with such a concept, the professions involved can act positively rather than reacting negatively to proposals that arise elsewhere.

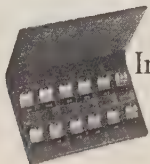
1. Transactions of the Canadian Dental Association, Winnipeg, June-July, 1970, p.6.
2. Report of the AD Hoc Committee on Dental Auxiliaries, D.C. Wells, Chairman, Ottawa, September 25, 1970.
3. Harris, Norman O., A career-ladder for educating dental personnel, J. Pub. Health, 32:169, 1972.

This is the last in the series of articles prepared on the Banff Conference on Dental Auxiliaries. The Canadian Dental Association wishes to thank Medi-Dent Service Ltd. and William Getz International for their financial assistance for the Conference, through a grant to the Canadian Fund for Dental Education.



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Soins dentaires gratuits: première étape d'une politique d'ensemble de santé buccale

Le ministre des Affaires sociales, monsieur Claude-E. Forget, s'est déclaré très heureux que son ministère ait pu parvenir à des ententes avec les deux associations regroupant les dentistes du Québec et il a affirmé que ces deux ententes sont la première étape d'une plus large offensive pour relever le niveau de l'hygiène dentaire des Québécois.

L'entente intervenue avec l'Association des chirurgiens-dentistes permettra d'inaugurer le premier mai prochain le programme de soins dentaires gratuits pour les enfants de moins de huit ans, tant en cabinet privé qu'en milieu hospitalier. L'autre entente qui permet l'entrée en vigueur de ce régime a été signée avec l'Association des spécialistes en chirurgie buccale, en septembre 1973.

Quelque \$9,000,000 ont été prévu dans le budget de l'année à venir au régime dont l'administration sera confiée à la Régie de l'Assurance-maladie du Québec. Aucune hausse n'en résultera dans les prestations versées par les contribuables à la Régie.

"J'espère, a déclaré monsieur Forget, que ces ententes ne sont que le début d'une vaste collaboration qui permettra non seulement de donner des soins plus adéquats à la population mais aussi d'assurer un meilleur accès aux soins dentaires dans toutes les régions du Québec." Le ministre a souligné que la collaboration si bien amorcée par cette entente avec les chirurgiens-dentistes devra résulter dans une meilleure répartition des dentistes dans les régions socio-économiques.

M. Forget a sur ce point cité l'exemple de la région du Montréal métropolitain où, en 1971, on comptait un

chirurgien-dentiste pour deux mille habitants comparativement à la région de la Côte-Nord où, à la même époque, un seul dentiste desservait une population de dix mille habitants.

Le ministre a tenu à préciser qu'à la suite de l'entrée en vigueur du régime, son ministère entend sensibiliser la population à l'importance de la prévention. "Ce nouveau régime, a-t-il déclaré, ne se limite pas à l'extraction des dents, bien au contraire. Cependant, il serait incomplet s'il n'était accompagné dans un avenir rapproché de mesures ayant un effet préventif marqué pour en arriver à diminuer les soins curatifs, qui ne sont jamais qu'un pis-aller."

Les mesures préventives consacrées par l'entente avec l'Association des chirurgiens-dentistes comprennent une rémunération pour l'enseignement et la démonstration de mesures d'hygiène buccale en cabinet privé, le nettoyage des dents, l'application topique de fluorure et autres mesures du genre.

Le ministre Forget a rappelé que son ministère considère la collaboration des chirurgiens-dentistes comme étant très précieuse, non seulement pour l'application du présent régime mais aussi pour l'élaboration et la mise sur pied d'une politique qui devrait mener à la création d'un programme complémentaire de soins dentaires qui atteindra éventuellement toute la population d'âge scolaire.

C'est ainsi qu'il compte proposer prochainement la réouverture du dossier sur la fluoration. Au Québec, seulement 12.7% de la population consomme de l'eau additionnée de fluor.

Aidez-nous à battre notre propre record

Le Congrès national 1973 de l'ADC, tenu à Vancouver en octobre dernier, fut le plus grand congrès dentaire au Canada, la plus importante rencontre professionnelle au Canada en 1973 et un grand succès! L'assistance totale de 4,200 personnes dépassait plusieurs fois le nombre de dentistes en Colombie-Britannique! Nous voulons que le congrès 1974 qui se tiendra à Toronto, du 6 au 9 octobre, soit un plus grand succès. Nous tiendrons compte cette année d'un nombre d'expériences tentées à Vancouver et des meilleurs résultats et connaissances obtenues. La soirée du président à Vancouver avec ses divertissements continuels, sa cuisine originale et de première classe, sans compter l'excellente participation, a fait dire à bien des participants que c'était la meilleure soirée à laquelle ils avaient jamais assisté. Attendez que l'on vous parle de la soirée du président de l'ADC projetée pour cette année!

Des sandwiches, de la bière et du lait seront offerts gratuitement aux dentistes inscrits, lundi et mardi le 7 et le 8 octobre de 11h30 à 14h. Le déjeuner d'installation ADC au cours duquel le Dr. Fred Reid de Vancouver deviendra le nouveau président de l'association, accueillera gratuitement les dentistes inscrits et leurs épouses. Des activités intéressantes sont projetées pour les dames. Un excellent programme scientifique est en voie de préparation. Songez à participer!

Le Conseil des Gouverneurs de l'ADC se réunira du 3 au 5 octobre

La rencontre annuelle du conseil des gouverneurs de l'Association Dentaire Canadienne aura lieu du 3 au 5 octobre 1974 à l'Hôtel Four Seasons Sheraton, à Toronto. L'art dentaire et son association nationale font face à de nombreux problèmes et questions importants. Tous les membres de l'ADC peuvent assister aux délibérations du conseil et à ses références aux comités. Nous vous encourageons à assister et à participer. Les principales questions à l'ordre du jour seront publiées bien avant la rencontre.



Signataires de l'entente entre l'Université de Toronto et le Conseil de recherches médicales. Dans l'ordre habituel, le docteur John R. Evans, recteur de l'Université de Toronto et le docteur G. Malcolm Brown, président du Conseil de recherches médicales.

Le CMR octroie \$1.5 millions à l'Université de Toronto

La recherche dentaire au Canada a bénéficié d'une impulsion majeure, au début de la présente année, avec la promesse du Conseil médical de la recherche du Canada de verser \$1.5 millions durant les cinq prochaines années, pour le financement de la recherche fondamentale en physiologie parodontale, et sur les facteurs qui affectent les tissus de soutien de la dent. La subvention a été accordée à l'Université de Toronto et au docteur A.H. Melcher, chef de l'équipe de recherche de la Faculté de dentisterie, et professeur de sciences biologiques. L'Université contribuera au projet en assumant les frais et une partie des traitements requis. Cette contribution s'élèvera à un montant entre \$400 et \$800 mille, durant la même période.

Les maladies des os, de la chair et des ligaments qui entourent les dents occasionnent plus de pertes de dents que la carie, chez les personnes âgées. Les causes de ces problèmes sont si peu connues que le traitement doit se borner à créer un environnement pour stimuler les cellules à réparer la destruction présente. Une meilleure connaissance des processus fondamentaux permettrait un traitement direct, susceptible de guérir les tissus malades.

Le traitement orthodontique comporte aussi la manipulation des structures de soutien de la dent afin de redresser cette dernière. De plus, une meilleure compréhension des processus sous-jacents permettrait d'apporter des traitements orthodontiques plus efficaces aux jeunes enfants.

Le docteur Melcher a souligné le caractère unique de son équipe, dont chaque membre possède une formation scientifique différente. Il est âgé de 46 ans, a poursuivi des travaux de recherche en Angleterre avant de venir au Canada, et il est le seul membre de l'équipe ayant reçu une formation en dentisterie. Les autres membres de l'équipe comprennent le docteur J.N.M. Heershe, qui a effectué des recherches dans le domaine de l'immunologie reliée à la transplantation, et de l'effet des hormones sur les cellules osseuses; le docteur Jaro Sodek, un biochimiste intéressé aux enzymes et à la structure des protéines; le docteur D.M. Brunette, un biologiste spécialisé en biologie cellulaire, possédant une connaissance particulière de l'isolement et du comportement des cellules; et le docteur T.W. Walker, un ingénieur dont les travaux de recherche sur l'action mécanique de l'articulation de

la hanche lui ont apporté les connaissances fondamentales voulues, pour l'observation des phénomènes physiques similaires dans les structures biologiques de soutien de la dent.

Le docteur Melcher a déclaré au Journal qu'il voulait souligner, à l'attention de ses collègues des facultés dentaires du pays, la portée planifiée de ce projet particulier de recherche.

"Cette subvention permettra à notre équipe de contribuer non seulement les résultats des travaux de recherche, mais aussi de participer à la formation de jeunes chercheurs dentaires qui travailleront avec l'équipe au cours de leurs stages de formation au niveau du doctorat ou des études post-doctorales. Il ne fait aucun doute que ces derniers auront le désir de poursuivre des travaux de recherche, par la suite, dans d'autres écoles dentaires."

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 mars 1974:

Fonds avec garantie \$10.779;

Fonds à revenu fixe \$14.404;

Fonds d'actions ordinaires \$30.177.

L'avoir total (valeur marchande) du régime se montait à \$18,745,449.28.

Au cours du mois précédent, les transactions ont été les suivantes: achat: 410,000 Royal Trust GIR; 12,149 Classified Fund Fixed Income; 17,015 Classified Fund Conventional Mortgage; \$400,000 Export Development Corp. note; 5,250 actions MacMillan-Bloedel; 2,000 actions Rio Algom Mines; \$600,000 Dow Chemical Company note; \$200,000 General Foods Ltd. note; \$500,000 Ford Motor Credit Co. note; \$500,000 General Motors Acceptance Co. note. Vente: 2,000 actions Consolidated Foods; \$600,000 Imperial Oil Co. note; 80,000 Royal Trust GIR; \$400,000 Export Development Corp. note.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto, Ont. M5R 2P1.

Comité Spécial sur le Bilinguisme

Le rapport suivant présenté par le docteur Ivan Hrabowsky, président du Comité, et les docteurs S. Silver et J. Casaubon fut accepté à l'occasion de l'assemblée annuelle du Conseil des gouverneurs de l'ADC pour devenir ensuite une politique adoptée par l'Association:

1) que la langue juridique et la langue de travail de l'ADC soit l'anglais: (Note: le terme "langue de travail" mentionné dans le contexte signifie la langue utilisée par le Conseil, dans l'exercice de ses fonctions officielles)

2) lors du déménagement du secrétariat général à Ottawa, que toutes les mesures soient prises pour embaucher un personnel de remplacement compétent et bilingue et/ou un personnel nouveau pour faciliter le travail de traduction;

3) à moins que l'usage de l'anglais seulement, durant les réunions du Conseil exécutif, ne constitue un désavantage pour les dentistes francophones,

que l'on continue de considérer l'anglais comme langue de travail;

4) que l'on dispose de services de traduction pour les réunions, et de plus, que cette question soit étudiée et révisée constamment;

5) que le principe de toujours compter au moins un francophone bilingue pour la formation des comités consultatifs soit maintenu;

6) que les sessions scientifiques soient tenues dans la langue du conférencier, et que l'on évite de faire appel à l'interprétation simultanée;

7) que l'on publie annuellement des données statistiques révélant les proportions du texte français, par rapport au texte anglais, dans les sections du Journal consacrées à chaque langue;

8) que la Lettre des gouverneurs ne constitue qu'une seule publication dans les deux langues, présentant le texte français sur la page opposée à celle de l'anglais, et que ce changement soit réalisé dès que possible;

9) que toutes les mesures soient prises afin de réduire l'écart de temps, pour que la Lettre des gouverneurs ne constitue qu'une seule et unique publication;

10) que des avis soient publiés périodiquement dans la Lettre des gouverneurs, afin de faire savoir que des exemplaires sont disponibles dans les deux langues;

11) que la version anglaise de TRANSACTIONS soit considérée comme la version officielle;

12) que l'on charge le Conseil des communications d'étudier les avantages, en fonction des frais, de la traduction française de tous les films de santé et des articles de journaux, s'il s'agit de répondre à un besoin réel;

13) que les communiqués de presse soient traduits dans les deux langues avant d'être diffusés par le secrétariat général de l'ADC, quand les services de traduction seront disponibles;

14) que l'ADC exige des compagnies, qui coopèrent avec nos membres par des services tels que le CDSPI et Medifacts, l'existence d'un service français approprié;

15) que l'ADC poursuive ses efforts dans le but d'inscrire suffisamment de dentistes francophones au programme en cassettes Médifacts, afin de permettre à l'Association de fournir à ces membres une version française de ce programme.

LE COMITÉ NATIONAL DES EFFECTIFS DENTAIRE

Les initiatives du gouvernement fédéral continuent de susciter des changements et de nouvelles conceptions, de la part de l'Association dentaire canadienne, à titre de représentant national de la dentisterie canadienne.

A l'invitation du sous-ministre de la Santé nationale et du Bien-être social, le docteur W.G. McIntosh, directeur général de l'ADC a participé à une réunion destinée à créer un Comité national des effectifs dentaires. Des comités du même genre ont été formés pour les médecins et les infirmières, par le gouvernement fédéral.

Le Conseil exécutif a pris connaissance du rapport du Comité d'exploration au cours de sa réunion du 4 au décembre dernier. Il recommande que l'ADC participe à l'action de cet organisme national.

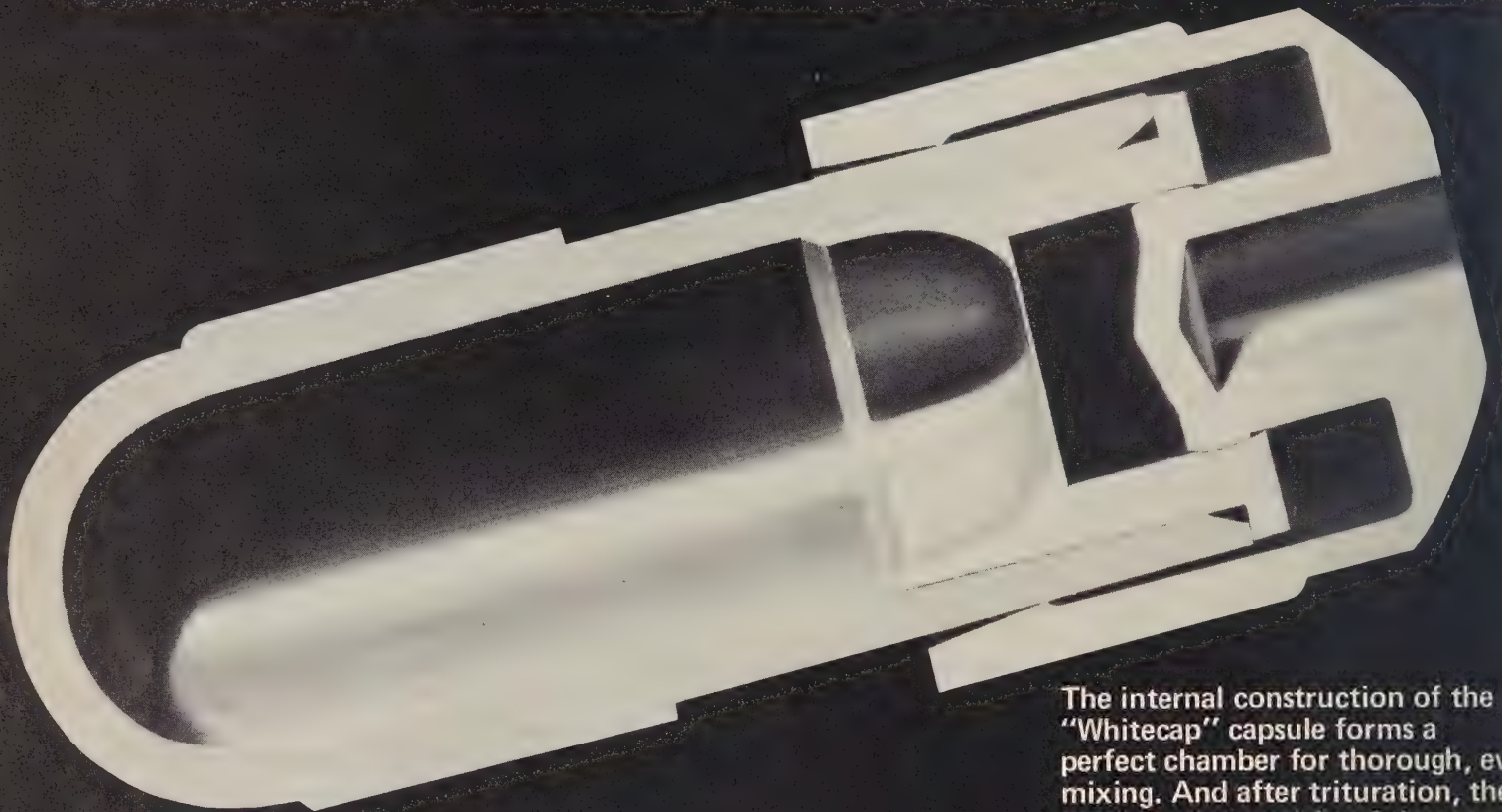
Parmi les projets d'enquête dont ce Comité serait chargé, mentionnons: les ressources humaines pour des projets spécifiques, la mesure de productivité des services dentaires, la pertinence des effectifs de diverses spécialités, l'enseignement permanent et le recyclage du personnel dentaire. Le Comité ne soumettrait ses rapports qu'aux organismes membres, qui auraient à leur tour la liberté de prendre position sur tous les sujets proposés.

En plus de l'ADC, les organismes suivants ont participé à la réunion d'exploration: le Collège royal des dentistes du Canada, le Bureau national d'examen dentaire du Canada, l'Association des facultés dentaires canadiennes, l'Association canadienne des infirmières et des assistantes dentaires, ainsi que le ministère de la Santé et du Bien-être social.

CORRECTION: L'article intitulé "L'ADC met à jour les statistiques sur la fluoration" (avril, page 279) a faussement rapporté que "12,500 Canadiens de plus ont consommé de l'eau fluorée." En effet, le chiffre correct est 125,000 Canadiens.

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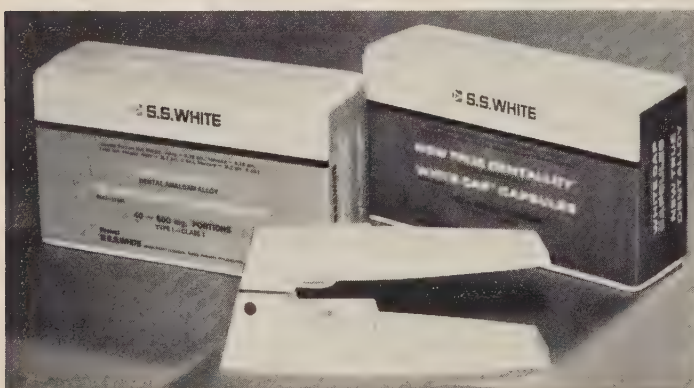


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2. DENTAL SURVEY, pp. 58-62, June 1973.
3. DENTAL SURVEY, p. 64, June 1973.
4. DENTAL STUDENT, pp. 28-30, February 1973.
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6. JADA, 82:1401, June 1971.
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Dental research: Avocation or vocation

W. Stuart Hunter, DDS, MS, PhD
London, Ont.



Dr. Hunter is professor and chairman, Division of Orthodontics, Faculty of Dentistry, University of Western Ontario, London, Ont.

The quest for remedies for dental decay, periodontal disease and malocclusion goes on daily in the dental schools of Canada; and nightly. Most often, those who seek must do so between lecture preparation, clinic supervision and committee meetings or after the apparently endless administrative minutiae of academic life have been attended to. Dental research in Canada is characteristically an avocation associated with dental faculties. The number of well-trained dental research workers in Canada who can devote the

majority of their time to research is very small indeed compared with the number of those who must put teaching and administrative activities first.

Nevertheless, it must be observed that there are areas of excellence in dental research in Canada such as neurophysiology, dental histochemistry and periodontal physiology, to name but a few. In my own area, the craniofacial growth data from the Burlington, Ontario, Growth Study are unmatched anywhere in quantity and quality. They were obtained between 1950 and 1965 approximately, and the fact that only recently has serious analysis of them been undertaken is directly related to the availability of a few workers who have been able to devote more than minor portions of their time to the study.

There are also areas of great promise. The University of Toronto MRC Dental Training Grant Program is one. It is also encouraging that there are presently 15 MRC Fellows engaged in advanced training who hold DDS or equivalent degrees (out of 287 in the total program). Surely the "flow-through" from this program may be expected eventually to augment the ranks of the MRC Associates (the career research program of MRC) who currently number 74 and only two of whom hold positions in dental faculties. Other associates undoubtedly contribute to dental research but their interest is necessarily limited by other loyalties. Of course, MRC Associates are not the only full-time or "vocational" workers in dental research. Nevertheless, the number of such is exceedingly small when compared with the scope and impact of the problems facing dental research.

Since one or all of dental decay, periodontal disease and malocclusion afflict almost the entire population at some time during their lives, the increasing emphasis by research funding bodies on relevance would seem to be an opportunity rather than a problem for dental research. The fact that the Ontario Department of Health, for example, chooses to emphasize health care delivery in its research support can be interpreted as a valid measure when seen in the light of this province's present enormous investment in health care delivery.

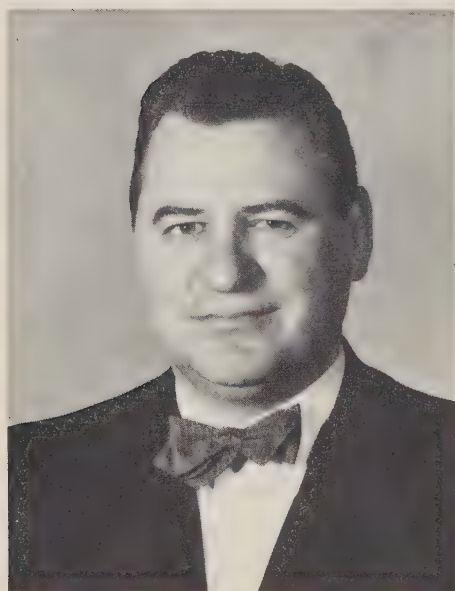
Although individually or collectively, the dental diseases are seldom as hazardous to life as cancer or heart disease, they do, because of their prevalence, have a significant economic impact on the population. In the face of such a concept, the fact that dental research as exemplified by the MRC Grants-in-Aid Program, utilizes less than 5 per cent of funds disbursed by MRC under that category, merits some attention.

The problem does not appear to be entirely a shortage of funds, since dental researchers usually compete for available money (i.e. in the MRC Grants-in-Aid Program) on the same basis as other health science researchers. It is questionable whether a larger slice of the available pie would in fact result in more than a marginal increase in output of dental research. Rather, the problem is that dental research is characteristically an avocation rather than a vocation. The bottle neck is time in which to utilize available money effectively. Most of us who own and use cameras can produce

(Continued on page 364)

Current problems to a dental research career

L. E. Francis, DDS, MSc
Montreal



Dr. Francis is assistant dean, Faculty of Dentistry, McGill University, Montreal.

At the present time, it is hard to say what is going on in dental research across the country. When I was chairman of the CDA Council on Research, I had a pretty good idea, as the Council was made up of vigorous young researchers — but that was several years ago. In our own part of the world the researcher eventually grows into an administrator and attempts to inspire young researchers to come on staff in a full time position. I have found that this does not usually work. I also find that many young researchers, particularly in the areas of physiology and pharmacology, who have attained PhD's are now applying for first year dentistry. Currently in our school in our final year we have two MSc's in pharmacology who gave up research to get out of the laboratory and get a clinical experience, and for the opportunity of mixing with people; in third year we have a PhD in physiology who would like a dental background with the purpose of going into a dental faculty for a teaching and research experience; in second year, a Masters in physiology not interested any longer in research or teaching; in first year a PhD in physiology interested in teaching and research, a PhD in chemistry who is part time researcher and full time student. To this list we have turned down other PhD graduates from physiology because the feeling was we were getting too many such candidates considering our small classes. All appear to feel insecure because of the lack of opportunity and finances in the area of basic research.

At McGill there was a drop in enrolment throughout the University for graduate studies. It appears that these things go in cycles and the tendency now is to desire clinical experience and the opportunity of finding ones own way rather than depending upon granting bodies to decide whether an individual should be able to function or not. There was a time when I could very happily have spent my own time teaching and doing research. I see the difficulties that are occurring to young people. It appears that every time they turn around some new barrier is set up.

I don't want this to sound too negative because I know there are areas which are doing extremely well, such as the University of Toronto with its \$1.5 million grant to Dr. A. H. Melcher for periodontal research. However, this may eliminate each year many young scientists attempting to organize a small research project.

Summing up, there is at present a general trend for young professionals to go into clinical practice rather than research. I believe this is a result of the current government emphasis on health care, and a positive need felt by many young people for direct involvement in the provision of this care. Dental research is still required for many obvious reasons but some authority must clarify the situation by re-defining practical dental research goals for this country and to provide a more secure environment in which young people can build a career.

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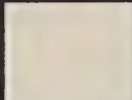
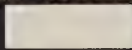
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Evolution of dental research in Canada

R.V. Blackmore, DDS, PhD
Edmonton

"We turn in off the flagstones . . . there's a metal plaque on the door, which says "C.H. Land, dentist" . . . Grandfather is a scientist who invents all sorts of things . . . His specialty is the development of porcelain dentistry. The basement and half the rooms on the ground floor of his house are filled with tools, machinery and chemicals. The walls of these laboratories enclose a unique world. Here, I live amid turning wheels, the intense heat of muffle furnaces, the precise fashioning of gold and platinum, and talk about the latest discoveries of science . . . At dinner table, I listen to discussions of philosophy and the latest scientific theories."¹

The foregoing passage describes the lifestyle of a dental scientist in the year 1910. Reflecting upon it, we are reminded of simpler times when most of the scientific knowledge of the day could be understood and put to use by the dental practitioner with an interest in research. But soon all this was to change. Even in that day the basis for the ensuing stupendous advances in physical science were being laid by the formulation of the first modern theories of atomic and molecular structure. Very soon, thereafter, research at the forefront of knowledge

in atomic physics became so specialized — and expensive — that it had to be done in the setting of the university or research institute supported by prodigious expenditure of money.

Parallel to the advances in physics, and interlocking with them were fundamental discoveries in chemistry. Subsequent progress in biological sciences was interrupted by World War II, but soon made tremendous strides. Much of the impetus to biological research was given by insights, methods and resources which were developed through advances in physical science. For example, a plentiful supply of radio isotopes became available as a "spinoff" from atomic energy projects. Tracer chemistry came into common use as an indispensable method for solving problems in biochemistry and biology. At the present time, electron microscopes have become almost commonplace, and in many laboratories automatic amino acid analyzers are deemed a necessity. In brief, research in biological science has become highly specialized and very expensive — practicable only in the university or research institute.

At the present time there are those who express concern that dental research has not kept pace with the general advances in biologic science. Often, these statements of concern are accompanied by the suggestion that all ills would be corrected by increasing the amount of money available for grants-in-aid of dental research. Before accepting such suggestions, however, let us examine the problem in historical perspective.

First, dental schools, traditionally, have depended upon medical school departments to teach basic sciences. It turns out that these sciences are basic to research even more than to practice. Second, dental schools have, until recent years, depended heavily on part-time staff members for much of their clinical teaching. This has resulted, with one or two notable exceptions, in very few programs of graduate study and research in those departments whose key members were part-time clinicians. Finally, the undergraduate curriculum in most Canadian dental schools has, until the last few years, not been designed to encourage undergraduate students to pursue research interests. It is little wonder that dental research, depending upon dental schools to provide the space, facility and capability, has undergone a lag period. However, it is noteworthy that steps taken in the past two decades have started to lay the basis for change. Dental faculties in Canada have begun to emphasize the recruitment of basic science teachers with research capabilities. They have done this by encouraging potential staff members with dental qualifications to undertake graduate study in the basic sciences as well as by recruiting basic scientists with interests in dental problems. Full-time clinical staff members, most with graduate education in their clinical specialty, have been acquired in ever-increasing numbers. Finally, undergraduate programs are gradually changing so as to encourage students interested in research to pursue careers in academic dentistry.

It is evident that potential for dental research in Canada is increased by any program which strengthens dental schools and permits them to develop academic programs which include research and opportunities for graduate study. Fellowship programs of the National Research Council and more lately of the Medical Research Council and the Canadian Fund for Dental Education have helped to provide a nucleus of dental scientists in Canada.

The development grant program of the Medical Research Council has the greatest potential for strengthening specific areas of research. However, outside support from such programs (which include salaries and benefits for new staff) is limited to three years. After this period universities are obligated to pay salaries as well as assume all indirect costs of their research. Faced with budget constraints and uncertain futures, university administrations are reluctant to enter into agreements to accept development grants which carry with them financial obligations for the future. Even more serious, universities in Canada have been subjected to budget cuts and hold-the-line financing to the

extent that it is very difficult, if not impossible, to maintain existing levels of support for their faculties, let alone provide for expansion.

In my opinion, the most serious road block in the path of dental research in Canada, at present, is at the level of provincial support of university staff and facilities. Without the potential to hire needed staff when they become available through fellowship support, or to embark on development programs, the next steps toward orderly expansion are blocked. Dental research has lagged, it is true, but the lag period has been necessary to establish the proper basis from which to proceed. Now, at a time when accelerated growth should be forthcoming, it is thwarted by lack of funds which can be provided, under existing arrangements, only through provincial channels.

Let us hope that this condition is only temporary, because without strong support, locally, direct support by national granting agencies cannot be put to best use. This situation calls for leadership and a willingness to do battle, at the local level, for strong faculties of dentistry. In addition, ways should be investigated which

would assist provincial governments in providing education in dental sciences and compensate them for indirect cost of research which relates to national interests.

"Within the overall concern which the federal government and its agencies must have for research in general, there are specific concerns to which it must address itself."²

In this context, for example, the "portability" of dental qualifications from one province to another could, it might be argued, provide the basis for cost-sharing between federal and provincial governments in ways that would strengthen our schools and benefit all Canadians.

Dr. Blackmore is Chairman of the Committee on Graduate Studies, Faculty of Dentistry, University of Alberta, Edmonton.

- 1 Charles A. Lindbergh. *The Spirit of St. Louis*. New York Charles Scribner's Sons, 1953.
- 2 Association of Universities and Colleges of Canada. *National Involvement Requires Federal Presence*. University Affairs, 15:2, 1974.

(Continued from page 359)

superb photographs occasionally, but to do so routinely requires constant practice. The constant practice of the full-time professional makes him both more efficient and more effective than the "avocational" worker. There are just simply not enough dental research workers in Canada whose *vocation* is dental research. This is in no way meant to imply that the "avocational" research being done in Canada is not excellent, productive and worthwhile but rather that our progress is agonizingly slow because the research hours available are inadequate. Nor is this meant to imply that all dental research should be "vocational". What I do mean is that there should be *more* "vocational" dental research.

The formation of "Groups", "Centres", "Institutes" and so forth may provide a mechanism for controlling the intrusion of academic duties upon a "vocational" research worker but are often also a mixed blessing. It is usually difficult to find the personnel when

there is money or the money when there are personnel. Also, such conglomerates tend to arise in faculties already awash in excellence and occasionally they leave en masse in search of greener pastures.

In the end, of course, good, ongoing, relevant research requires money and more money. And there really are two types of money involved: (1) to carry forward research per se, and (2) which I believe far more important, is the money that provides sufficient faculty in a dental school so that those whose talents and interests run to research may make it a vocation.

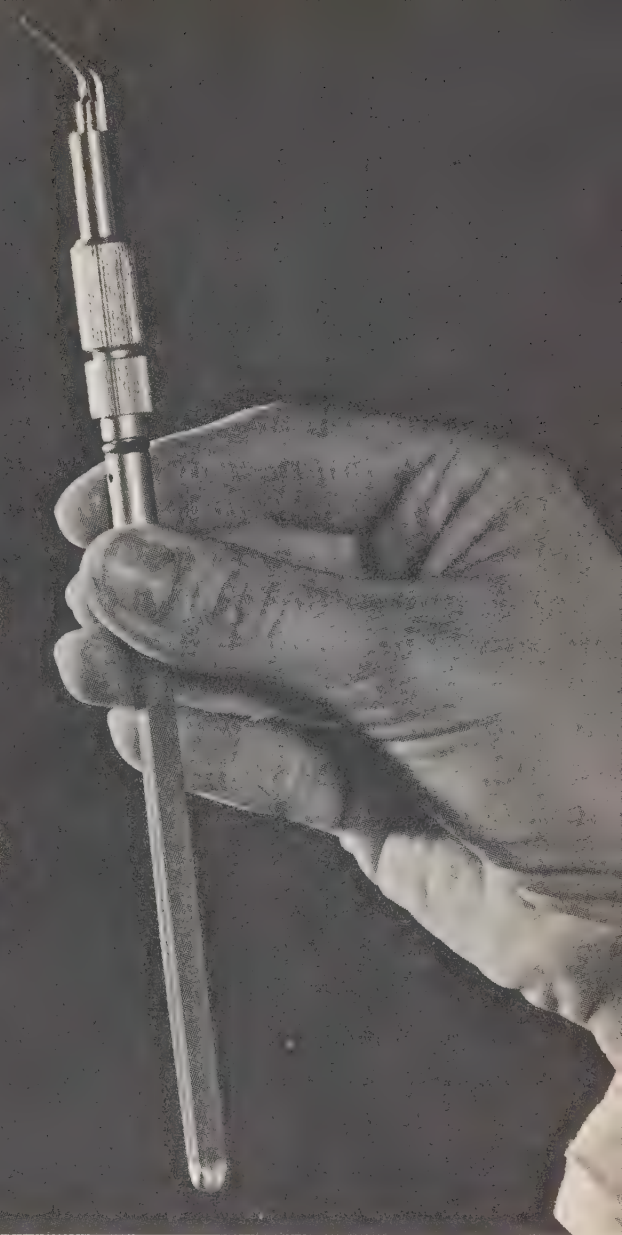
The MRC, CFDE and other agencies have quite properly focussed upon the training of research workers. It is the lack of care and maintenance upon completion of training that results in our "avocational" approach to dental research. Unquestionably, many newly trained researchers choose an academic and administrative career because the rewards are more obvious and tangible than those of a research career. If we

wish to have more dental research, we must make the rewards more obvious and tangible.

As is usual with complex problems, simple answers are seldom useful. Such federal agencies as the MRC provide assistance for full-time research workers and it is my impression that its utilization in dental faculties is quite uneven across the country. In addition, the provinces which have an enormous stake in health care, should be encouraged to initiate and extend such "vocational" funding programs for dental research.

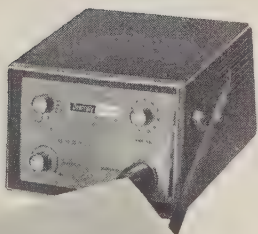
And finally, dental faculties as a whole and at all levels should encourage their universities to recognize the potential of "vocational" dental research, and assist in its support both by utilizing presently available schemes and by promoting additional means of such support. To say as we are wont, that "they should do something" is essentially circular. It is we, each one of us, who must address ourselves to the problem and advance solutions relentlessly.

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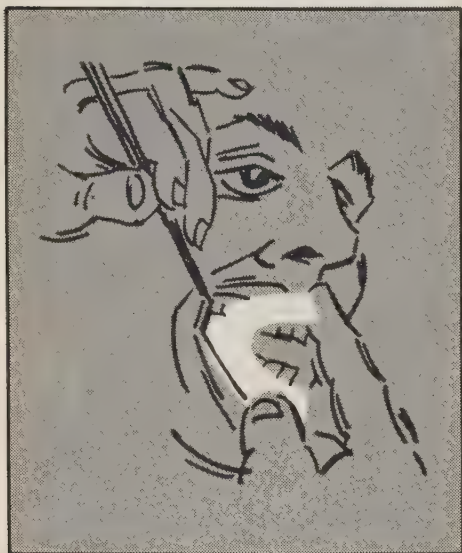
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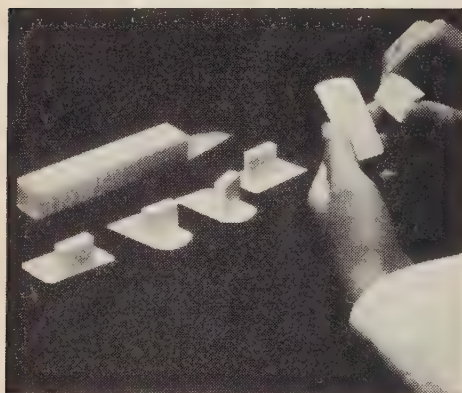
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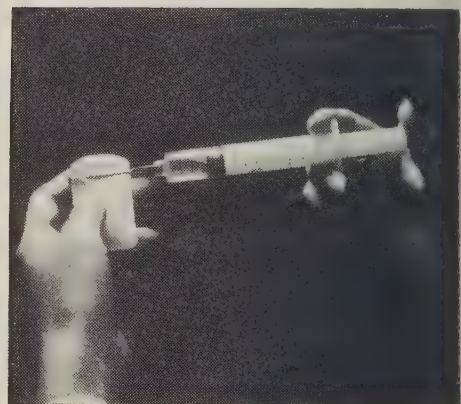
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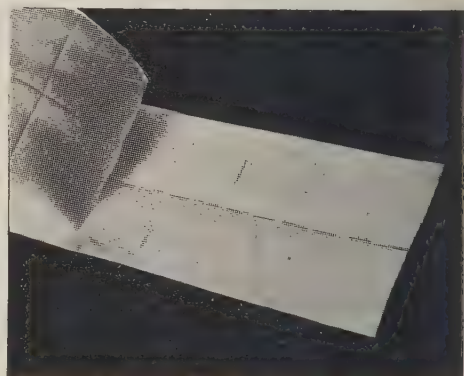
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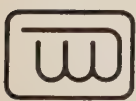


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A clinical evaluation of nitrous oxide-oxygen sedation for dental procedures

E. Goldstein, MD
M. Goldstein, DDS
Montreal

In the past, the effects of nitrous oxide and oxygen sedation on physiological functions, and especially on the circulation, have usually been measured in volunteers, using various fixed levels of the gases. The authors therefore evaluated the effect of a nitrous oxide-oxygen mixture on the vital systems of 10 patients undergoing routine dental procedures. The concentrations used were specific for each individual, and the dental treatment lasted at least one hour. The actual office use of this form of sedation had no effects on the vital systems, other than those elicited by relaxation of the patient.

Dans le passé, l'effet de la sédation au protoxyde d'azote sur les fonctions physiologiques, en particulier celles de la circulation, a été établi à partir de niveaux fixes des gaz. En conséquence, les auteurs ont évalué l'effet d'un mélange de protoxyde d'azote et d'oxygène sur les fonctions vitales de 10 patients sous traitement dentaire de routine. Les concentrations furent établies spécifiquement pour chaque individu pour des traitements dentaires d'au moins une heure. L'emploi de cette forme de sédation dans le cabinet dentaire n'a d'autres effets sur les systèmes vitaux que de décontracter le patient.

Despite evidence to the contrary, nitrous oxide-oxygen sedation mixtures are still suspect in the eyes of some dentists. The commonest criticism is that most of the literature deals with volunteers in a non-treatment setting. To offset this, we monitored the vital signs in 10 dental patients who were subjected to nitrous oxide-oxygen analgesia. The subjects were taken at random, irrespective of age or sex, but with no clinical contraindications, and subjected to usual dental procedures for a minimum of one hour. Skin colour, pulse rate, depth of respiration and blood pressure were observed as they are easily noted by the dentist while performing treatment and because the maintenance of these parameters at a normal level generates confidence in the use of the technique. The electrocardiogram was added to confirm the absence of cardiac anoxia and to correlate heart rate and pulse rate as noted during the various procedures.

Material and method

Ten adult patients were chosen at random. All had previously experienced the effects of nitrous oxide and oxygen and their best treatment level had been established. There were five males and five females varying in age from 18 to 51 years and in weight from 118 to 240 lb. Each was kept at his particular sedation level for one hour during which time treatment was performed. Mixtures of

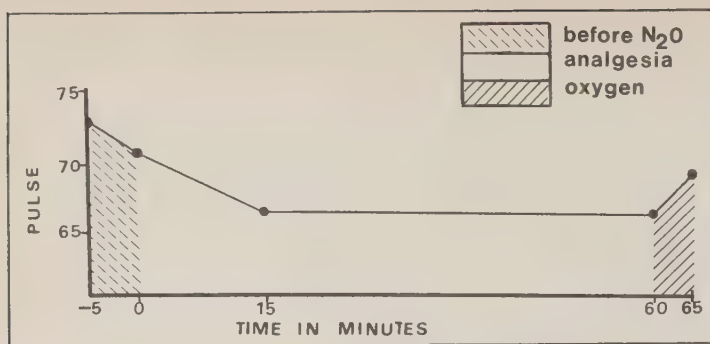


Fig 1 Average pulse rate.

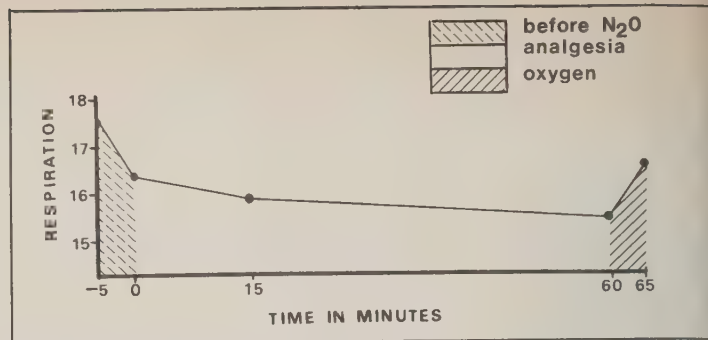


Fig 2 Average respiratory rate.

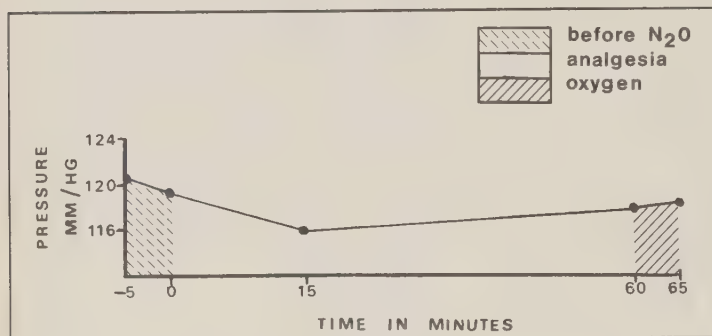


Fig 3 Average systolic blood pressure.

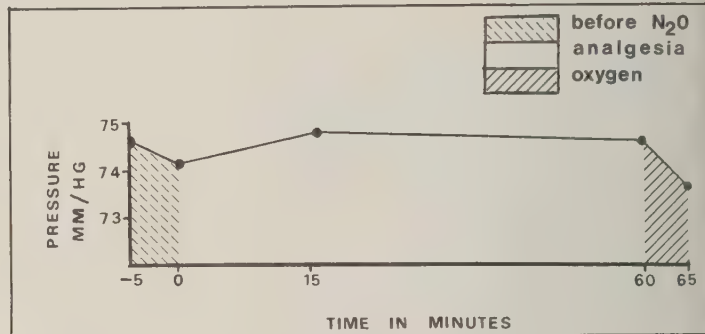


Fig 4 Average diastolic blood pressure.

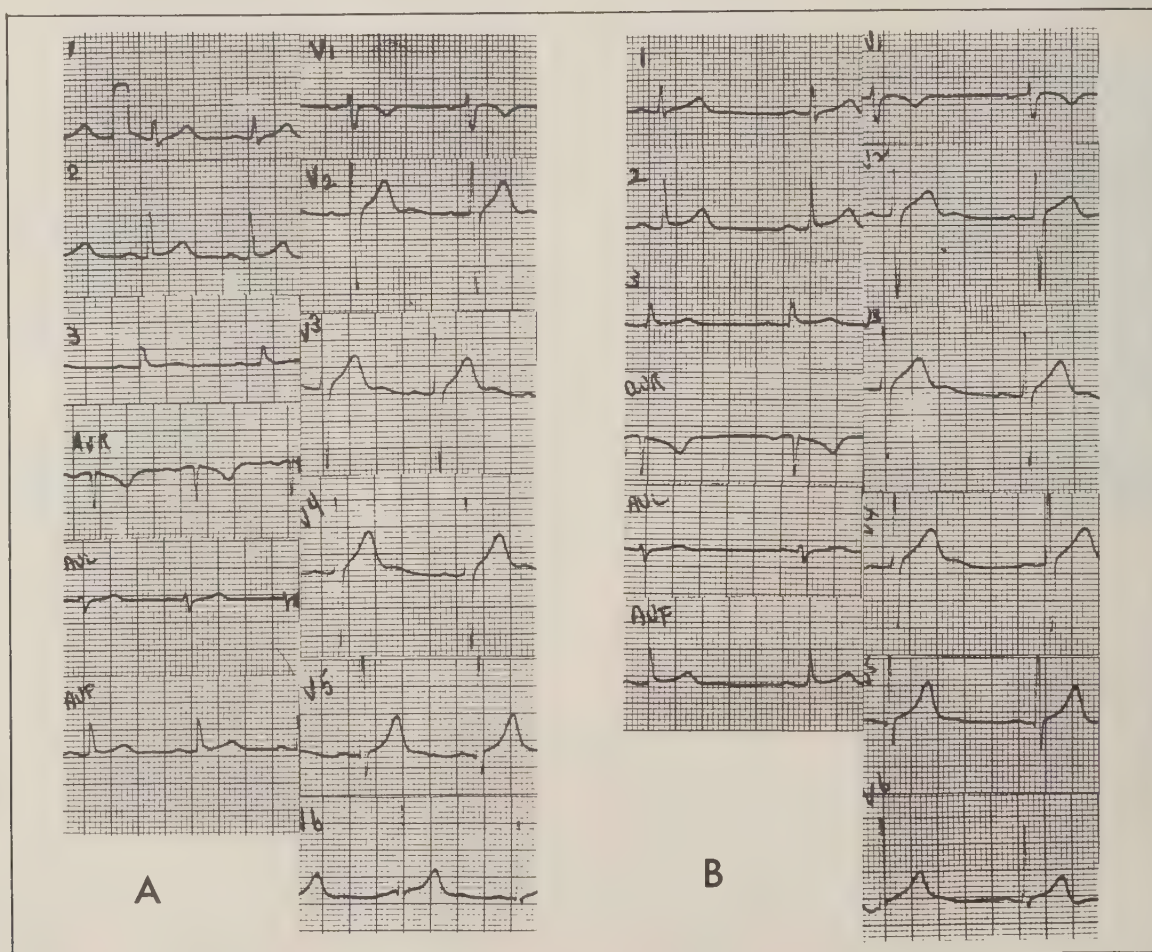


Fig 5 Comparative electrocardiograms from patient RM. A. Before analgesia; B. After 60 min. at 28 per cent N₂O.

Patient	MS	BL	BW	IL	EK	MH	MB	SG	MR	RM	Average
Age	51	18	29	34	18	37	28	30	20	18	
Sex	F	F	F	M	F	M	M	F	M	M	
Weight	125	140	118	240	100	180	238	122	200	150	
% N ₂ O	38	25	50	57	29	60	25	54	62	28	42.8
Pulse											
before	70	72	76	68	72	86	76	76	72	68	73.6
onset	67	70	66	66	70	80	72	82	72	66	71.1
+15 min	60	70	64	66	66	72	76	70	72	50	66.6
+60 min	57	68	68	68	62	66	72	72	72	60	66.5
+ 5 min O ₂	67	68	66	68	68	72	72	70	72	66	69.1
Blood pressure											
before	<u>110</u> 74	<u>130</u> 78	<u>110</u> 72	<u>124</u> 82	<u>110</u> 68	<u>140</u> 94	<u>126</u> 66	<u>108</u> 69	<u>120</u> 70	<u>120</u> 80	<u>120.4</u> 74.6
onset	<u>114</u> 76	<u>130</u> 78	<u>112</u> 72	<u>130</u> 80	<u>108</u> 68	<u>130</u> 94	<u>124</u> 70	<u>106</u> 62	<u>120</u> 70	<u>120</u> 72	<u>119.4</u> 74.2
+15 min.	<u>108</u> 78	<u>122</u> 78	<u>106</u> 70	<u>126</u> 82	<u>106</u> 68	<u>132</u> 90	<u>120</u> 78	<u>104</u> 62	<u>120</u> 70	<u>116</u> 72	<u>116.0</u> 74.8
+60 min.	<u>110</u> 76	<u>128</u> 78	<u>118</u> 74	<u>126</u> 80	<u>102</u> 68	<u>126</u> 90	<u>126</u> 76	<u>104</u> 62	<u>120</u> 70	<u>118</u> 72	<u>117.8</u> 74.6
+ 5 min. O ₂	<u>110</u> 74	<u>122</u> 76	<u>118</u> 72	<u>122</u> 80	<u>104</u> 68	<u>134</u> 90	<u>124</u> 70	<u>106</u> 62	<u>120</u> 70	<u>122</u> 74	<u>118.2</u> 73.6
Respiration											
before	18	18	18	16	18	18	20	17	17	16	17.6
onset	19	16	18	22	17	14	16	16	13	14	16.3
+15 min.	16	18	16	18	16	16	16	16	13	13	15.8
+60 min.	17	16	16	17	16	16	16	15	13	12	15.4
+ 5 min. O ₂	18	18	18	17	18	15	16	16	15	15	16.6

nitrous oxide varied from 25 to 62 per cent and were neither sex, age nor weight dependent. A patient weighing 238 lb found 25 per cent nitrous oxide adequate, another who weighed 240 lb required 57 per cent, while one individual weighing 118 lb needed 50 per cent nitrous oxide. The patient's psychological attitude to sedation (sometimes determined by his previous experience with the mixture), his emotional state at the particular time, his anxiety about the dental procedure, and the degree of trauma involved were factors determining the ratio of nitrous oxide and oxygen in the mixture.

The gases were delivered to the patient from a continuous flow Quantiflex RA or MDM analgesia machine. In either case the apparatus had a non-breathing feature as part of the basic equipment. Standard rubber goods were used, including the nasal inhaler. The latter had a spring loaded "pop" valve set for non-rebreathing, and the air sleeve was at a quarter open. It is obvious that the percentages discussed are only those delivered by the machine. Leakage of air from around the inhaler and mouth breathing serve to dilute the mixture and make the

actual fraction of nitrous oxide that reaches the lungs unknown. The numbers on the machine are therefore only reference points which are utilized in subsequent analgesia administrations.

Observations were not made continuously, but were adequate to determine the effect after 60 minutes of maintained sedation at a level necessary for each patient. Recordings were made of the pulse rate, respiration, blood pressure and electrocardiogram. These were taken before administration of the gas mixture while the patient was breathing room air, at the onset of sedative effects, after 15 minutes, after 60 minutes of uninterrupted sedation, and finally after five minutes breathing of pure oxygen.

Results

In all cases there was no significant change in the vital signs and the electrocardiogram (Table 1). There was no alteration in colour (all received more than 20 per cent oxygen) and all were fully responsive. The pulse rate tended to fall as the an-

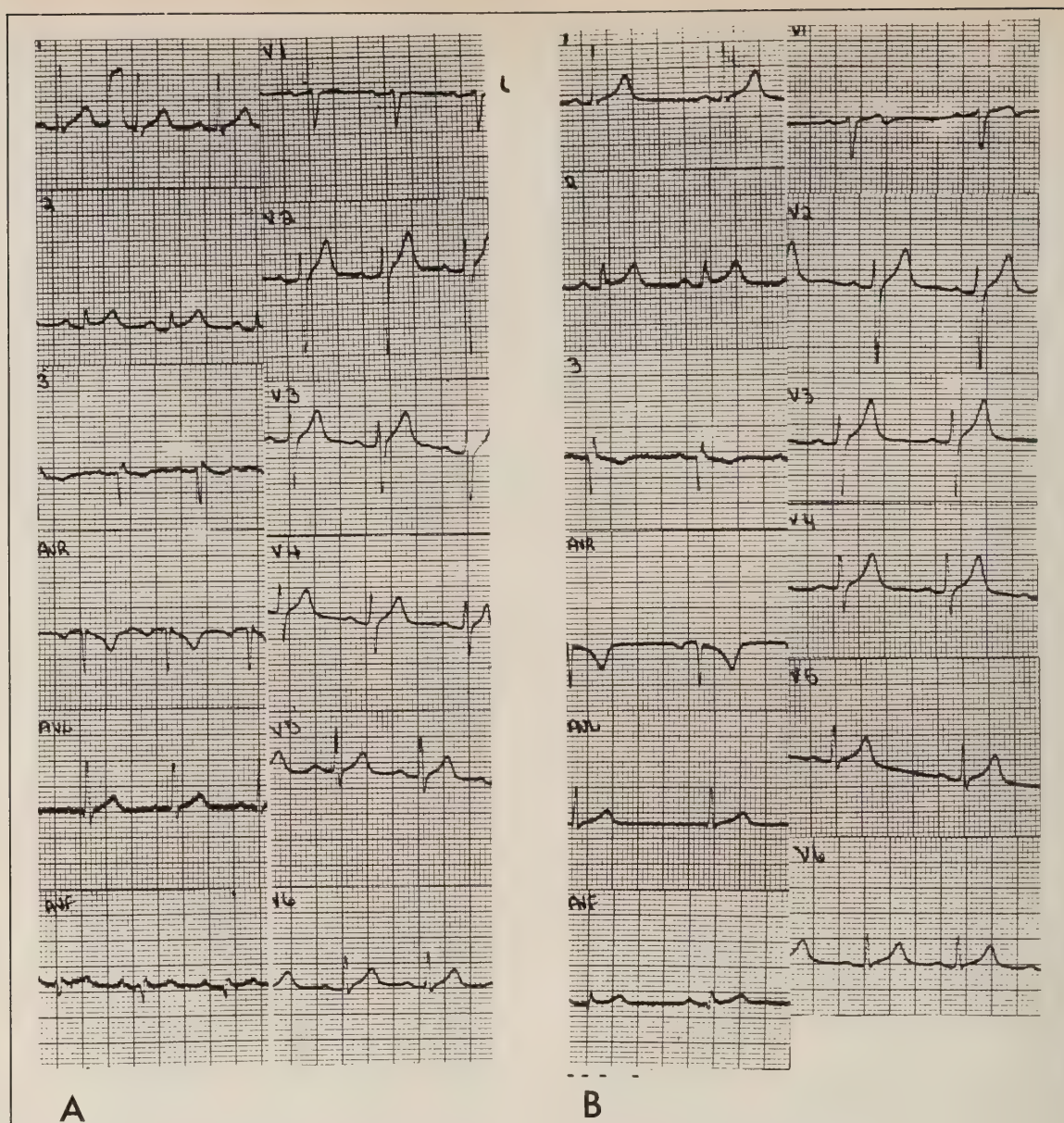


Fig 6 Comparative electrocardiograms from patient MH. A. Before analgesia; B. After 60 min. at 60 per cent N₂O.

algescic effect became evident (Fig 1). This was particularly noted in patients who showed some anxiety before treatment. For example, in patient MH the pulse rate of 86/min before treatment dropped to 66/min. After five minutes oxygenation his rate returned to a normal 72/min. Similarly, his respiratory rate dropped 3-4 breaths per minute. This drop was normal and expected (Fig 2) as the rate of respiration is related to the degree of relaxation.

During sedation in a tranquil patient, systolic blood pressure (Fig 3) tended to drop as expected with the higher than usual oxygen inhaled. The diastolic blood pressure showed little or no change (Fig 4).

The electrocardiograms remained virtually unchanged in every patient except for the rate. The P-R interval, the shape and duration of the QRS complexes, the Q-T time, the ST segment level and the T wave showed no alteration after 60 minutes

of sedation (Figs 5,6). Any variations noted during sedation were well within normal physiological limits.

After five minutes of oxygen inhalation all the parameters measured returned to close approximation of the readings obtained prior to induction. Reductions of the pulse rate and respiratory rate, as with systolic blood pressure, resulted from relaxation and not from any direct action of the inhalant on the various systems.

Discussion

Nitrous oxide is the only inorganic gas that is practical for clinical anaesthesia. It is relatively insoluble in blood and is carried in physical solution. It does not combine with haemoglobin. It is rapidly absorbed and excreted principally through the lungs.

In sub-anaesthetic concentrations nitrous oxide is analgesic and ataractic in man. It is claimed that 20 per cent of the gas combined with oxygen has an analgesic effect of 15 mg of morphine.¹ Baum and Tekevec² have shown that, using a semi-closed system with the rebreathing valve on the hood open and the air vent (sleeve) closed, the administration of 71 per cent nitrous oxide and 29 per cent oxygen through the nasal hood resulted in an elevation of blood oxygen tension from a base level of 78.5 mm Hg to 142.0 mm Hg.

In effect, the results were the same as administering pure oxygen alone. It is therefore not surprising that nitrous oxide and oxygen in a 50 per cent solution is now used in cases of angina and myocardial infarction.³ The analgesia relieves the pain and the fear and anxiety, all of which may cause spasm of the coronary arteries. The oxygen component of the nitrous oxide-oxygen mixture may relieve the local hypoxia which is often present after myocardial infarction.⁴

Everett and Allen⁵ have evaluated the cardiorespiratory and analgesic effects of nitrous oxide and oxygen in 10 healthy volunteers not undergoing dental treatment. They showed again that the physiological effects during analgesia parallel those of inhaling pure oxygen.

It has been established that, with 20 per cent oxygen supplied at all times, the myocardium receives adequate oxygen,⁶ and that the use of nitrous oxide-oxygen sedation in the recommended manner with adequate oxygenation and no rebreathing helps to prevent circulatory complications. Nitrous oxide causes no change in cardiac rate and output, and no change in blood pressure.⁷

The primary object of nitrous oxide-oxygen sedation is to relieve anxiety and fear and to sedate. It also reduces the time span awareness of the dental treatment experience. Analgesia is incidental.⁸ Nitrous oxide is an effective means of relief of anxiety in the conscious patient. The conscious patient is one with intact protective reflexes including the ability to maintain an airway, and who is capable of rational response to questions or commands.⁹

Summary

Nitrous oxide-oxygen sedation administered in 10 patients for dental procedures lasting one hour had no significant effect on the vital signs observed by the dentist nor on blood pressure or the electrocardiogram. Although the number of individuals in this study was not statistically significant, the findings tend to support the view that nitrous oxide-oxygen sedation poses no threat to an intact cardiovascular and respiratory system provided the dentist is familiar with the procedure and adheres to the established criteria governing the use of nitrous oxide as an ataractic.¹⁰

Dr. Goldstein's address is: Suite 377, 600 Côte des Neiges., Montréal 249, Qué.

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Single appointment therapy for a periodontal abscess

R. F. Harvey, DDS, FRCD(C)
Montreal

The author describes methods of treating a periodontal abscess in one appointment. These consist of puncture or incision of the lesion or excision of an area of chronic pocketing, depending upon access and the feasibility of obtaining satisfactory anaesthesia. Thorough debridement, curettage and irrigation aid in preserving a maximum of soft tissue. Normal healing usually ensues following manual compression of the soft tissues. No dressing is placed.

L'auteur décrit les méthodes de traiter les abcès périodontaires en une seule séance. Ces méthodes consistent soit à ponctionner ou à inciser la lésion, soit à exciser la région du cul-de-sac chronique, selon l'accessibilité de la localisation et la possibilité de pouvoir administrer une anesthésie suffisante. Le débridement, l'irrigation ou le curetage complets permettront de préserver une partie maximale du tissu mou. La compression manuelle sera généralement suivie de la guérison normale sans l'aide de pansements.

The therapy described in this article has been used successfully for some 15 or more years and has eliminated the need for a second appointment in many cases. Treatment is based on the fact that nature provides all the elements of repair at the site of an acute infection. These effect reduction of the acute inflammation and assist in repairing areas of chronic infection.

Review of literature

The periodontal or parietal abscess is an acute, localized, inflammatory condition of the periodontium caused by bacterial invasion. The lesion manifests the usual signs of acute inflammation: redness, swelling, heat and pain. Being localized to the periodontium, one would expect to find a swelling of the gingiva or mucosa about a particular tooth; pus may be evident at the "pointing" abscess or about the gingival margin and the tooth will exhibit varying degrees of tenderness to percussion, elongation and mobility.

Therapy for such conditions is as old as dentistry and consists of establishing drainage. Various methods of lancing, teasing open the pocket, gentle scaling and irrigation have been advocated and all will give relief to the patient and result in drainage.

In 1915 Adair¹ recommended daily irrigation via the pocket using saline or a dilute solution of phenol until healing occurred. He did not advocate lancing the abscess.

In 1944 Miller² recommended that "a button-hole-incision . . . is made vertically over the deeper part of the pocket to about 4 mm from the gingival margin. The deeper part is curetted through the incision; the superficial part is curetted through the sulcus. Thus, recession after the operation is reduced to a minimum."

Glickman³ also favoured the vertical incision avoiding the gingival margin, irrigation with warm water, and gentle scaling after gradual spreading of the tissues.

Pritchard⁴ suggests similar lancing to preserve the mucosa when the abscess is pointing and the use of erythromycin; he also proposes minimal local anaesthesia by injecting "just under the mucosa."

Goldman and Cohen⁵ establish drainage through the orifice of the pocket by gradually stretching the tissues so that pus escapes; this is followed by carefully scaling the area. If the pocket is tortuous, a button-hole-incision is used followed by scaling. They consider local anaesthetics ineffective but they prescribe antibiotics as required.

Grant, Stern and Everett⁶ stress drainage which is obtained by "curetted the pocket or incising the abscess." They favour a horizontal incision and frequently insert an iodoform gauze wick. They point out that "vertical incisions may lead to unsightly recession and should be avoided."

Nabers⁷ gives the patient erythromycin for four or five days, and evacuates the pus via the pocket orifice. Any incision made should preserve the gingiva, he states. Following drainage of the pocket he repeatedly scales and flushes the area until the infection subsides. He re-evaluates in three months and if the abscess has not subsided, repeats the above therapy.

All of these methods usually require a second appointment from one day to several months later for flap surgery to eliminate all the damaged tissue and restore the affected side to acceptable physiological form and function. All authors, of course, recommend relieving the occlusion as required.

Aetiology

A periodontal abscess may be caused by a blunt puncture wound from a toothbrush bristle, interdental stimulator, bone or hard particle in the food. More frequently, however, it is due to the sudden flare-up of a chronic periodontal pocket.

The puncture type of wound, if treated immediately, heals readily upon removal of the cause and usually presents no problem in therapy. This article deals with those abscesses that develop from existing periodontal pockets.

The chronic periodontal pocket usually provides its own drainage into the oral cavity; when this route is suddenly blocked, the inflammatory process tends to spread in other directions causing rapid destruction of soft and hard tissues and results in an acute periodontal abscess. This sealing of the orifice may be due to the following reasons:

1. Superficial scaling which only removes the irritants at the coronal portion of the pocket allowing healing to take place in this area; with the healing, this portion of the pocket may hug the tooth tightly thereby effectively sealing off the deeper portions so that bacterial activity continues in a more confined atmosphere. Many years ago, Box⁸ attributed "complex" types of periodontitis to inadequate superficial scaling in many cases.

2. Sudden vigorous tooth brushing in an area of long standing periodontitis where the dentist has not first removed plaque and calculus. This may result in superficial healing and tends to lacerate the inner pocket wall by rubbing it against the hard subgingival deposits.

3. Use of water irrigating devices at excessive pressures directed into the pocket, thereby driving bacteria through the ulcerated crevicular attachment or epithelium.

4. Application of chemical agents as sometimes used in crown and bridge procedures which may effectively seal off the deeper portions of the pocket.

5. Pressure of bridge pontics or partial dentures which settle and impinge on the pocket orifice, sealing it or impeding blood circulation to the area (Fig 1).

Therapy

The following treatment is based on two considerations: (1) the superficial region with its chronic inflammation, calculus, debris, and variable morphology, and (2) the more acutely infected, deeper portions of the abscess which contain pus and necrotic debris surrounded by acute inflammation harbouring all the elements essential for repair.⁹ No calculus is present in this area as there has been insufficient time for its formation.

The objectives of therapy are: (1) to relieve discomfort by obtaining drainage and relieving the occlusion if required; (2) to promote repair of the acute portion of the abscess; and (3) to eliminate the pre-existing chronic periodontal pocket.

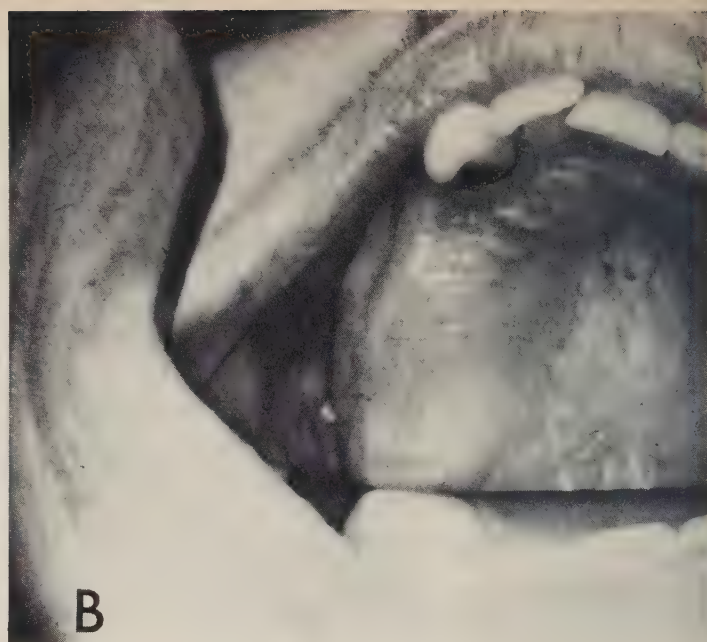


Fig 1 A, 12 mm palatal periodontal abscess due to an impinging partial denture and arising from a pocket between the maxillary right central incisor and cuspid. (Both lateral incisors were congenitally missing). With local anaesthesia, an incision was made from the point of the abscess to the crest of the interradicular bone. Palatal tissue was excised between the distal aspect of the lateral incisor and the mesial aspect of the central incisor. Scaling and curettage completed the treatment. B, six years later a chronic 4 mm pocket remained. The denture was not changed.

Puncture — Where anaesthesia is unobtainable, puncture through the pointing portion of the abscess directly to the tooth can usually be performed quickly and almost painlessly. This provides immediate drainage and relief. Careful scaling and occlusal adjustment are performed if required. Hot saline rinses or the application of poultices soaked in warm milk help to maintain further drainage. A disadvantage of this method is that the small orifice heals quickly so that the abscess may again become active.

Incision — Again, if anaesthesia is impossible, an incision can be made which will provide better access and drainage. But instead of puncturing the abscess and withdrawing the scalpel, the blade is inserted to the base of the abscess and, keeping in contact with the tooth, drawn coronally through the gingiva and pocket wall to the orifice. Warm saline rinses are usually prescribed.

This method requires no more time than the simple puncture. It has several advantages. It provides better drainage. The incision does not close as readily as the puncture wound. The collapsed tissues fall away from the tooth exposing the pocket content so that scaling and gentle debridement of necrotic tissues can be performed without having to distend the tissues. The acute portion of the abscess will frequently heal with no further assistance.

One disadvantage of incision is that, even if the acute portion of the abscess heals, it frequently leaves an area of chronic inflammation which must be treated at a later date. Unsightly gingival recession may also occur in the anterior part of the mouth. To avoid excessive shrinkage, the incision need not be made directly into the abscess; the centre of the abscess can be punctured and a vertical incision made only through the area of chronic inflammation.

Excision — Where anaesthesia is obtainable, the area of chronic pocketing is excised thus obtaining maximum drainage and exposure for further therapy. The intent is to remove by a gingivectomy only that portion which would have been removed if no abscess had developed. The case depicted in Figure 2 illustrates this procedure.

Oblique incisions are made at the mesial and distal periphery of the pre-existing pocket, following the contour of the lesion provided this does not involve the oral mucosa (Fig 2B). A pie-shaped wedge of tissue is then excised (Fig 2C). Calculus is scaled in the area of chronic inflammation and all necrotic tissue is curetted. The operation site is usually flushed with hydrogen peroxide while scaling proceeds to ensure that no remnants of calculus remain prior to the curettage; thereafter, the area is thoroughly flushed with saline. All pus is eliminat-

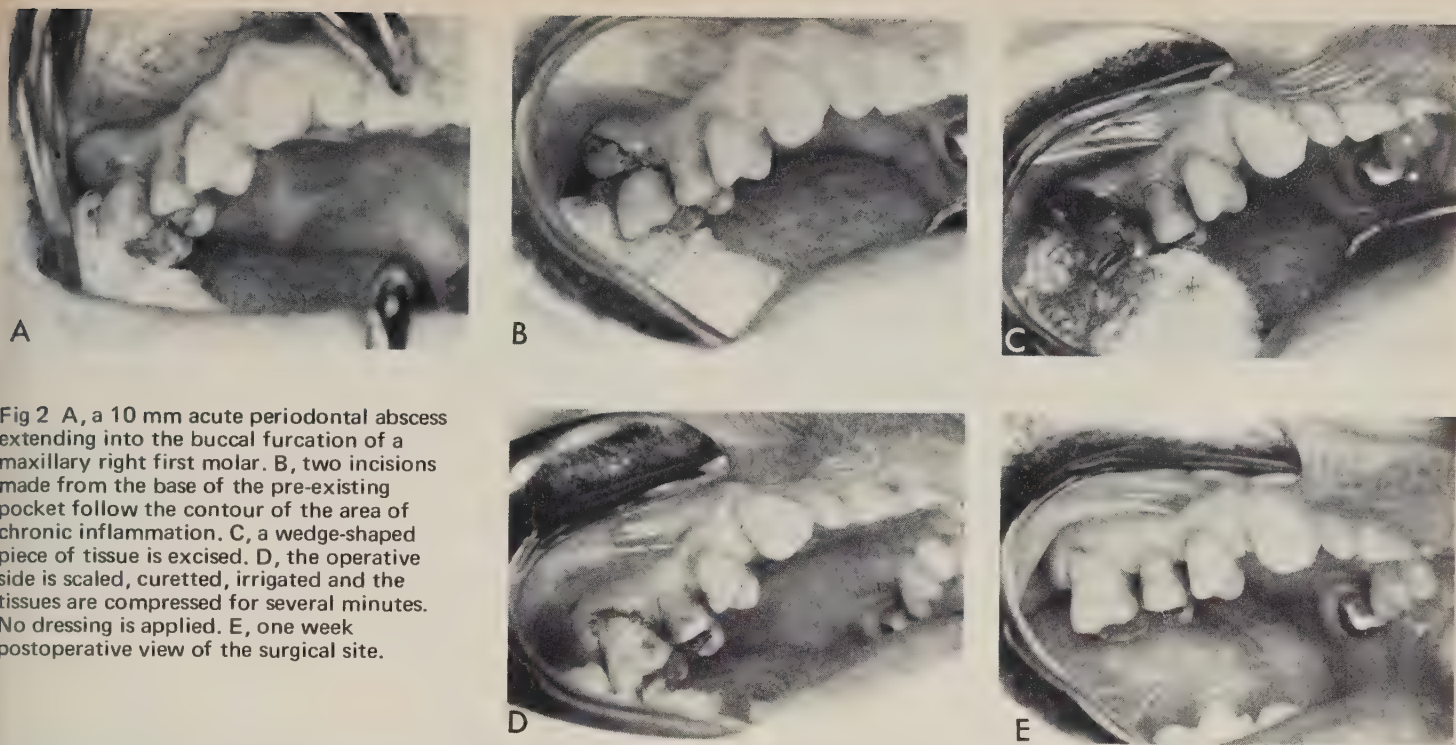


Fig 2 A, a 10 mm acute periodontal abscess extending into the buccal furcation of a maxillary right first molar. B, two incisions made from the base of the pre-existing pocket follow the contour of the area of chronic inflammation. C, a wedge-shaped piece of tissue is excised. D, the operative side is scaled, curetted, irrigated and the tissues are compressed for several minutes. No dressing is applied. E, one week postoperative view of the surgical site.

ed, necrotic soft and hard tissue is removed, and the remaining tissues fall back into place where they are gently but firmly compressed and held for a few minutes (Fig 2D). Once the tissues are compressed, the patient is left with a small incision wound which requires no dressing. A dressing may also inhibit further drainage and could be displaced into the wound area preventing primary intention healing.

The advantages of this method are its simplicity, a second operation is often unnecessary, and the patient has little postoperative pain. There is, however, some gingival recession; in the case illustrated in Fig 2E recession of 4½ mm was observed one week postoperatively.

Modifications

When an abscess points apical to the marginal bone (Fig 1,3) an incision is first made from the area of pointing terminating at the crestal bone or the area of chronic inflammation. Thereafter, the excision of tissue proceeds as previously described.

If the abscess points in the oral mucosa apical to the mucogingival junction, it may not be necessary to incise from the point of the abscess; a simple cruciform puncture may suffice to obtain drainage followed by excision of gingival tissue. Usually this provides sufficient access to debride the area without sacrificing all keratinized tissue and frequently

prevents the occurrence of a mucogingival problem which would require further therapy.

Excision of an abscess on the labial aspect of anterior teeth results in an unsightly deformity. This is minimized by modifying the surgical technique as illustrated in Figure 4. In this case, the pocket depth measured 12 mm. A cruciform incision was made into the point of the abscess and a slight excision was made towards the pocket orifice; the tooth was scaled and gentle curettage was performed under the raised tissue. Calculus was present in the coronal 6 mm of the pocket. All debris was carefully removed including the inner pocket wall which had become necrotic and was easily detached. The area was thoroughly irrigated and the tissues compressed. The patient was also given spiramycine¹⁰ 1½ Gm per day for one week as he exhibited numerous other areas of advanced active periodontitis and developing abscesses. Apart from routine cleansing the site of the initial lesion received no further treatment for the next 3½ years up to the time of the illustration in Figure 4B.

An abscess which points labially may emanate interproximally or from a lingual focus. In such cases one can often make a cruciform incision through the abscess, keeping the incision, excision and debridement lingual to preserve as much labial tissue as possible for aesthetic reasons. However, a second operation is usually required at a later date and spiramycine 1½ Gm per day is prescribed for 3-5 days following the initial operation.

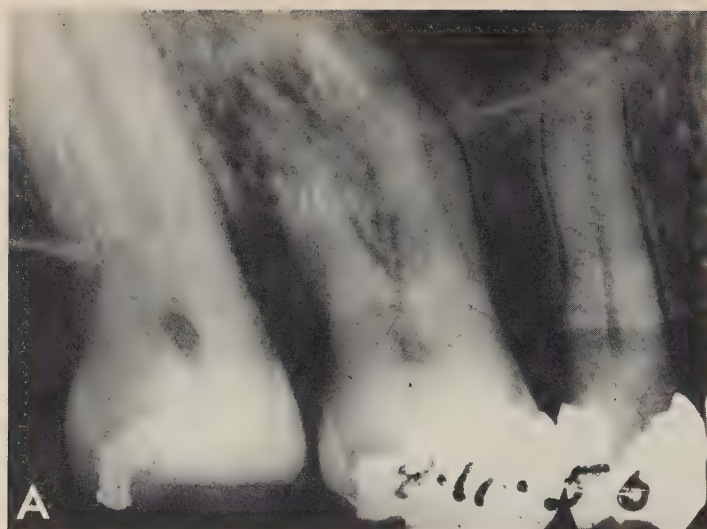


Fig 3 A, radiograph showing an area of bone loss resulting from chronic inflammation affecting the mesiolingual furcation of a maxillary right first molar. There was also a palatal swelling and an acutely inflamed 12 mm pocket. The affected tooth was mobile and partially extruded. Treatment consisted of incision, scaling, curettage and the relief of occlusal interferences. B, postoperative radiograph taken seven years later. The tooth was not splinted, but its mobility was minimal by this time and only a 2 mm crevice remained on the mesiolingual furca.

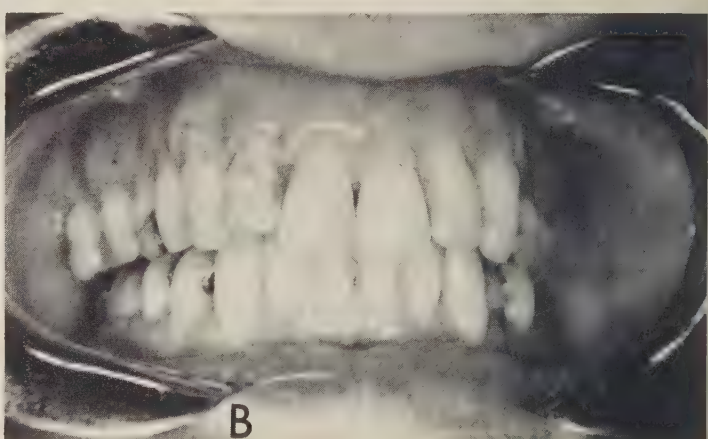


Fig 4 A, 12 mm pocket on the labial aspect of maxillary left central and lateral incisor. Treatment consisted of a cruciform mucosal incision into the point of the abscess, slight tissue excision near the pocket orifice, scaling and curettage. B, postoperative view 3½ years later. The gingival margin around the affected area displays minimal recession.



Fig 5 A, radiograph showing an area of bone destruction distal to a mandibular left lateral incisor. Treatment consisted of puncture of the vestibular fornix, excision of gingival tissue and curettage. No dressing was applied. B, 13 months postoperative radiograph indicates healing up to but excluding the area of chronic inflammation.

Discussion

The first rule of any therapy is to arrest the disease process. The methods described in this article conform to this principle.

An acute periodontal abscess is reversible if the cause is eliminated through adequate drainage and debridement. Acutely inflamed tissue heals quickly when the source of the inflammation is eliminated because the elements of repair are more readily available than in a chronic infection.⁹

Bacterial and tissue toxins present in the area cause complete destruction of the organic and inorganic elements in the lesion so that their removal by gentle curettage or debridement is simple. Removal of the necrotic tissue leaves a freshly prepared tissue surface readily available for almost immediate repair.

The pre-existing area of chronic pocketing is also transformed into a region of acute inflammation with necrotic degeneration of the pocket lining and submucosa, facilitating curettage and faster repair of this area. If the chronic portion of the pocket is neglected, healing is entirely confined to the acutely inflamed regions of the pocket (Fig 5).

Occlusal interferences in the presence of mobile teeth must be relieved.

Bone fill usually ensues in the acutely inflamed areas and some degree of fill can often be observed in regions of chronic inflammation.

Summary

Simple effective methods have been described for treating a periodontal abscess. By utilizing the full potential for healing in acute inflammation, it is frequently possible to eliminate the acute abscess and simultaneously treat the area of chronic inflammation.

Curettage results in maximum repair. Incisions or excisions, where required, aid by ensuring better drainage. Retention of a maximum amount of soft tissue is also assured provided the dentist performs thorough scaling, curettage and irrigation, followed by firm compression of the tissues.

The majority of periodontal abscesses can thus be completely treated in one appointment without discomfort or pain. Rarely is anything more than a mild analgesic required during the postoperative period. As a rule the tissues destroyed by the acute condition undergo complete repair. The area of chronic pocketing is frequently eliminated at the same time.

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Polycarboxylate cement as a pulp capping agent

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Three molecular variants of zinc polycarboxylate cement were compared to zinc eugenate subcutaneously and as pulp capping agents in mechanically exposed pulps of molars and premolars in four cynomolgous monkeys. Zinc eugenate was used in teeth of the left mandibular quadrant; corresponding teeth of the other three quadrants were treated with the polycarboxylate formulations. The animals were sacrificed at intervals of two, seven, 17 and 32 days. Two day and seven day carboxylate-treated pulp specimens showed very little inflammatory response whereas 17 and 32 day specimens displayed a wide range of responses. Subcutaneous implants of polycarboxylate gave a much more consistent pattern. This contrasts with the reactions evoked by zinc eugenate which produced more severe subcutaneous responses but elicited only mild pulpal reactions. The pulp capping studies showed no detectable differences between the three polycarboxylate formulations.

Trois dérivés moléculaires de ciment au polycarboxylate de zinc furent comparés à l'eugénate de zinc appliqué par voie sous-cutanée et comme substance de coiffage de la pulpe dans des cas d'exposition mécanique de pulpes de molaires et de

prémolaires de singes cynocéphales. L'eugénate de zinc fut utilisé pour des dents du quadrant mandibulaire gauche. Les dents correspondantes des trois autres quadrants furent traitées avec des préparations au polycarboxylate. Les animaux furent sacrifiés à intervalles de 2, 7, 17 et 32 jours. Les spécimens examinés deux jours et sept jours après le traitement de la pulpe au carboxylate révélèrent très peu de réaction inflammatoire, alors que les spécimens examinés 17 et 32 jours après le traitement présentèrent une grande variété de réactions. Les implantations sous-cutanées de polycarboxylate présentèrent des modèles de réactions plus conséquentes. Ces résultats contrastent avec les réactions provoquées par l'eugénate de zinc qui produisirent des réactions sous-cutanées plus graves, tout en ne présentant que de faibles réactions pulpaires. L'étude des cupules pour le coiffage de la pulpe n'a démontré aucune différence décelable entre les trois préparations au polycarboxylate.

Castagnola¹ reports that Pfaff in 1756 was the first to record the use of a capping technique for preserving the vitality of the dental pulp. This involved covering the pulp wound with a piece of gold plate. Since then, many materials have been suggested for this purpose. Hermann,² for example, reported on the use of an aqueous paste of

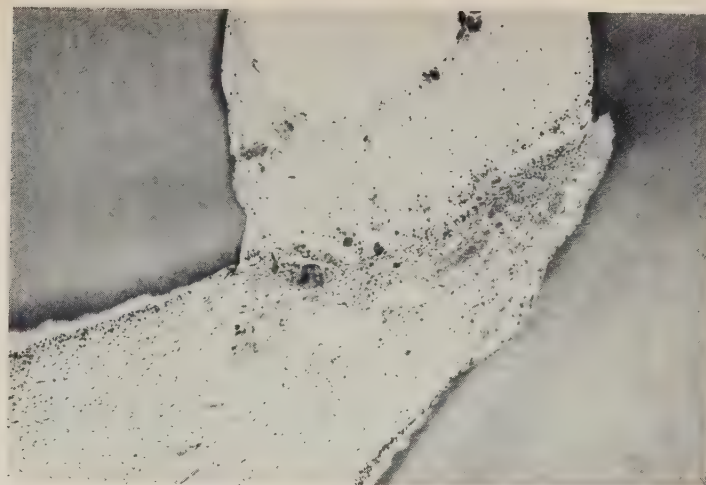
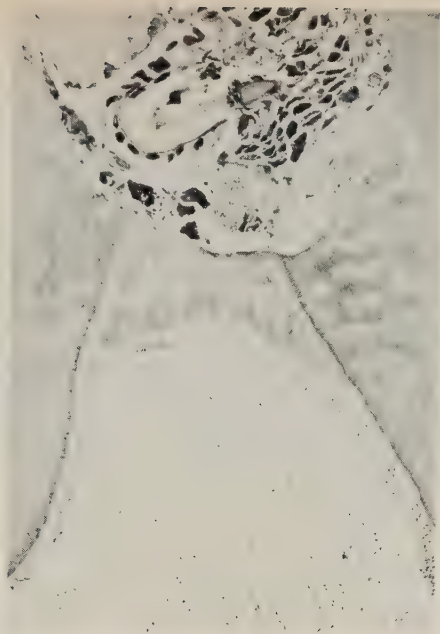


Fig 1 (Left) Photomicrograph of pulp exposure. No inflammation (grade 0) beneath dentine bridge. H.E. x 50.

Fig 2 (Right) Pulp exposure with grade 1 inflammation. H.E. x 40.

buffered calcium hydroxide. The first histological assessment of this material was recorded by Teuscher and Zander³ and various reports followed on the success of this method (Glass and Zander,⁴ Nyborg,⁵ and Berman and Massler⁶). Masterton,⁷ however, from the results obtained, concluded that pulp capping with calcium hydroxide or any other known materials at that time was an unreliable treatment.

With the introduction of corticosteroids and antibiotics, reports appeared on the efficacy of these materials for pulp capping (Rapoport and Abramson,⁸ Kiryati,⁹ Kozlov and Massler,¹⁰ Schroeder and Triadan,¹¹ Baume,¹² Cowan,¹³ Barker and Ehrmann,¹⁴ and Shovelton et al¹⁵). Results from these studies, however, were not entirely satisfactory and the search continued for a better material. More recently, because of their excellent haemostatic and adhesive properties, cyanoacrylates have been used as pulp capping agents (Bhaskar and Frisch,¹⁶ Bhaskar et al,¹⁷ Wade,¹⁸ and Nixon and Hannah¹⁹).

The newly developed zinc polycarboxylate cements (Smith²⁰) have good adhesive properties both to calcified and soft tissue and, in addition, have acceptable biological properties (Ring,²¹ Klotzer et al,²² Plant,²³ Demmel,²⁴ Fessler et al,²⁵ Jendresen and Trowbridge,²⁶ Safer et al,²⁷ Truelove et al,²⁸ and Beagrie et al²⁹). It was thus decided to assess these cements as pulp capping materials and since there is some evidence to suggest that the molecular weight of the polyacrylic

acid component might indirectly affect healing (De Clercq and De Somer,³⁰ and Niblack,³¹) this too was examined in the study.

Materials and methods

Three polycarboxylate cements were developed:

PAZ 1 — consisted of heat treated zinc oxide plus polyacrylic acid solution 5,000 molecular weight containing residual sulphate;

PAZ 2 — consisted of heat treated zinc oxide plus polyacrylic acid solution 5,000 molecular weight with the residual sulphate removed;

PAZ 3 — consisted of heat treated zinc oxide plus polyacrylic acid solution 20,000 molecular weight from which the residual sulphate was again removed.

Each of these three formulations were assessed as a pulp capping agent and compared to zinc eugenate cement.

Four adult cynomolgous monkeys were used for this study. The animals were between 3½ and 5 years old and had their permanent dentitions intact. The premolars and first molars of each quadrant were selected as experimental teeth. Without the use of rubber dam, exposure of the buccal and mesiobuccal cornua of each pulp was made after preparation of a Class 1 occlusal cavity by high-speed instrumentation with a half round bur and copious water and air coolant. Each pulp was finally exposed by gently probing the head of the bur into the pulp chamber, creating exposures of a uni-

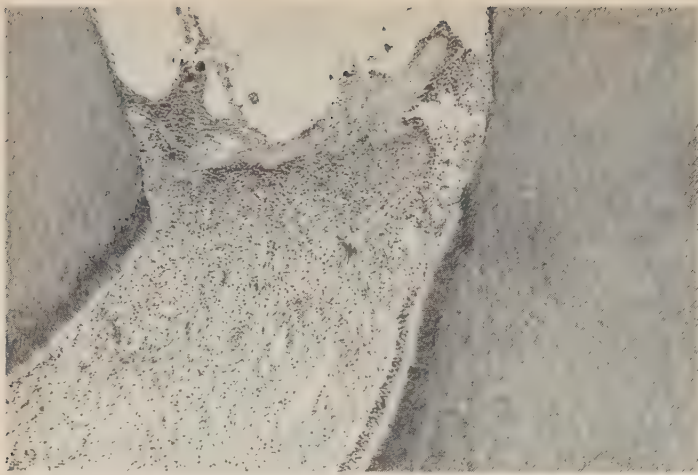


Fig 3 Subacute inflammatory pulp reaction not confined to exposure (grade 2). H.E. x40.



Fig 4 Pulpal microabscess formation (grade 3). H.E. x25

form size. Haemorrhage was controlled with dry sterile cotton pellets and the pulp was then treated with the experimental cement or zinc eugenate, according to the quadrant of the dentition: (1) left mandible — zinc eugenate, (2) right mandible — PAZ 1, (3) right maxilla — PAZ 2, (4) left maxilla — PAZ 3.

The pulp capping cement was placed with the minimum of pressure and sealed in each cavity with a mixture of an alumina reinforced zinc polycarboxylate cement. The animals were sacrificed at intervals of two, seven, 17 and 32 days. Blocks of the jaws and teeth were removed from each experimental site and fixed in neutral buffered formalin. After decalcification, 6 μ serial sections through the pulp exposure were made for each tooth. Sections were stained by haematoxylin and eosin and results assessed according to the degree of inflammation present.

The criteria used in the microscopic assessment of the effects of the pulp capping were based on those mentioned for subcutaneous soft tissues (Beagrie et al.^{2,9}) but modified to a degree:

Grade 0 — normal pulp or pulp with no inflammation beneath a complete calcific bridge (Fig 1).

Grade 1 — mild chronic inflammation confined to the pulpal tissue in the immediate area of the pulp capping material (Fig 2).

Grade 2 — subacute inflammation extending further into the pulpal tissue (Fig 3).

Grade 3 — acute inflammation usually with micro-abscess formation (Fig 4).

Grade 4 — pulpal necrosis (Fig 5).

To avoid observer bias, sections were coded prior to evaluation and graded by two observers. Only when microscopic examinations were completed was the code broken and the results tabulated.

Reaction of the subcutaneous rat tissues was also assessed to the three cements by placing a fresh mix of each material into the backs of eight rats in a similar manner to the previous work (Beagrie et al.^{2,9}). Each cement was mixed as before in a 2:1 powder liquid ratio by weight and a pellet of each was inserted through three separate incisions in the rat's back into a pocket created by blunt dissection. The wounds were closed by 000 suture. Animals were sacrificed in pairs at intervals of two, seven, 17 and 32 days. Tissue specimens were dissected out containing the respective cements and after formalin fixation, 6 μ sections were cut through the reaction area. After staining in haematoxylin and eosin, each was assessed microscopically by two independent observers for the degree of inflammation present, according to the criteria of Beagrie et al.^{2,9}

Results

Observations on these polycarboxylate cements as pulp capping agents failed to demonstrate a specific trend for any one formulation (Fig 6). For the two and seven day time intervals the majority of scores ranged between grade 1 and grade 2. During the 17 and 32 day intervals there was a wide range from grade 4 to grade 0. By contrast, zinc eugenate cement gave a much more consistent pattern with grade 1 inflammation for both the two and seven day intervals, rising slightly at 17 days with a fall back to grade 1 at the 32 day period.

In many cases it was seen that the pulp capping material had been pushed into the pulp, displacing pulpal tissue but the severity of the evoked inflammation did not correlate with this finding. Dentine chips were seen lying free in the pulp in many cases

but again this did not affect the severity of the reaction. In a few cases fragments of polyacrylate cement were observed lying free in the pulp. These had minimal inflammatory changes around them. In some of the pulps, areas of osteodentine had formed around the polyacrylate cement (Fig 7A,B).

Two completely formed bridges of reactionary dentine were found in the present study. Both occurred in 32 day specimens treated with different formulations of zinc polyacrylate. Two partly formed plugs were observed in seven day specimens, one capped by zinc eugenate and one by polyacrylate. In both of the latter specimens the inflammation was grade 2.

Subcutaneous implant results of polycarboxylate by contrast gave a consistent pattern in which the trend was readily seen on a scattergram (Fig 8). For all three cement formulations an inflammatory grade of one or less was recorded at the 32 day interval. The results, however, failed to indicate a more consistent pattern for one formulation over another.

Discussion

Just as in the subcutaneous tissues, the range of reactions seen in the pulp formed a continuum of inflammations from the most acute and extensive to the very mildest and most chronic. In assigning numerical values to these inflammations, borderline cases occurred which were discussed by the two observers in an attempt to reduce personal bias and increase uniformity of grading. Zinc eugenate was used as a standard of comparison to comply with the American Dental Association^{3,2} recommendation for such tests. The four interval scale for assessment of inflammations was again used to permit direct comparisons with the previous studies. In comparing these results with the scale recommended by the American Dental Association^{3,2} and the Fédération Dentaire Internationale^{3,3} (mild, moderate, severe), our grade 1 corresponds to mild, grade 2 to moderate, grade 3 to severe, and grade 4 to very severe.

The results of the subcutaneous implantation studies showed that no differences could be detected in the severity of the evoked inflammation between the three polyacrylate formulations tested by the criteria used. To all intents the evoked reactions were indistinguishable from each other. The results of the pulp capping studies showed the same lack of distinguishable differences between the formulations.

The occurrence of two fully formed and two partly formed dentine bridges was of interest as

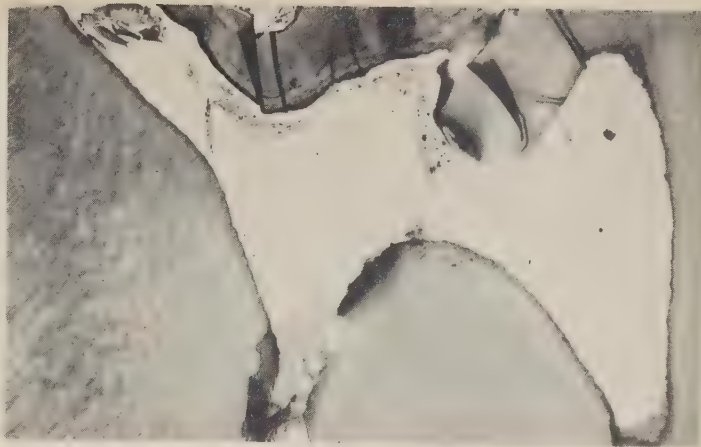


Fig 5 Total pulp necrosis (grade 4). H.E. x20

this is the most desirable end result of pulp capping procedures. The observations that the partly formed bridges were associated with a moderate degree of inflammation suggests that some mild irritant properties may be desirable in a capping material.

The marked difference in the mild inflammation evoked by zinc eugenate in the pulp and the severe inflammation evoked by this material in subcutaneous tissues (Radden,^{3,4} Colman,^{3,5} and Beagrie et al^{2,9}) contrasts with the similarity in degree of inflammation caused by polyacrylate in these tissues. To account for the mild pulp reaction to zinc eugenate, a change must be postulated either in the material or in the tissue reactivity. The former seems to us more probable and it may be that a chemical interaction between dentine and zinc eugenate or free eugenol reduces the irritant properties of the latter.

The wide range of results obtained in the 17 and 32 day specimens, from 0 to 4 in teeth treated with the same material, makes us speculate that extraneous factors were involved. While we have no direct evidence for this, we think it likely that bacterial contamination at the time of operation was a complicating factor. The observation of strict surgical aseptic technique for the operative procedure together with appropriate bacteriological investigations would have enabled us to evaluate this variable. Strict surgical asepsis was not used as it was thought more appropriate to simulate pulp capping procedures as they are routinely done in dental practice.

The differences found in the levels of inflammation among the polycarboxylate formulations and between zinc eugenate and polycarboxylate were not significant. The average reaction at all time

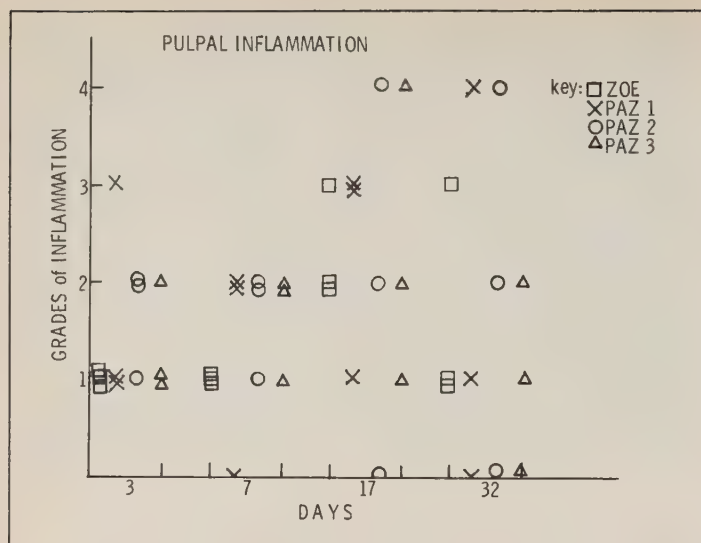


Fig 6 Pulp inflammatory score distribution for zinc eugenate cement and three test polycarboxylate cements.

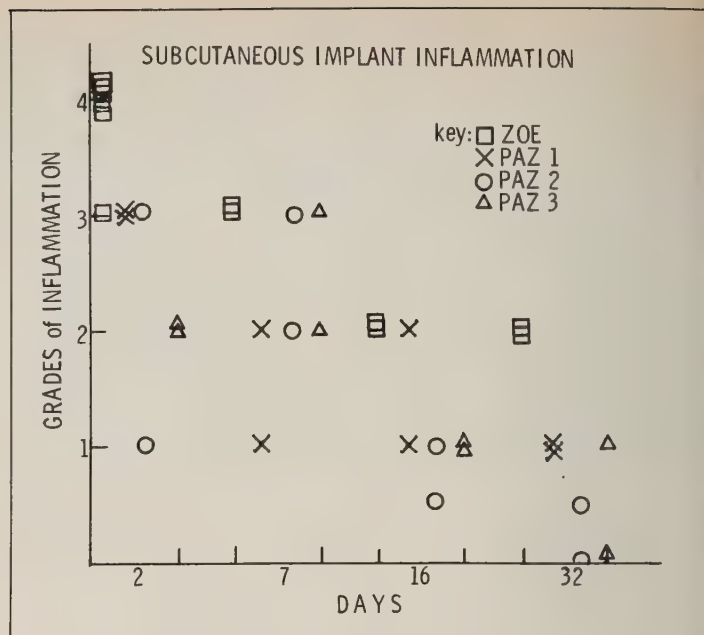


Fig 8 Distribution of grades of inflammation associated with zinc eugenate and test polycarboxylate cements from subcutaneous implant sites.

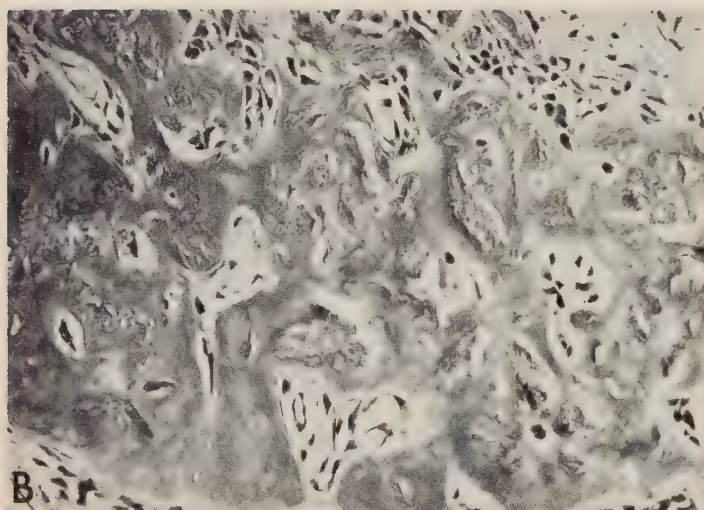
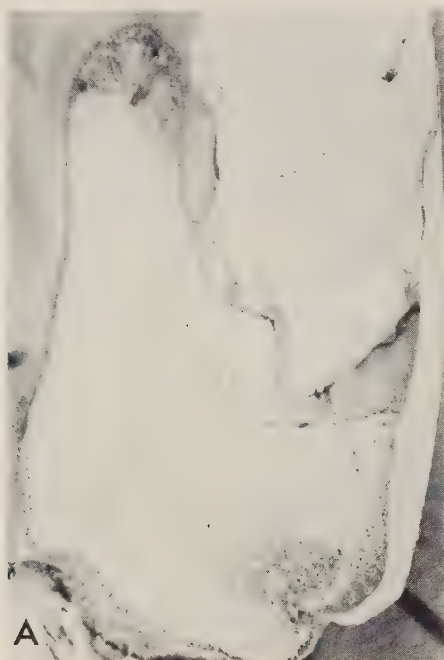


Fig 7 Osteodentine formation around fragments of polycarboxylate cement. H.E. Fig 7A x20, Fig 7B x63.

periods was well within the American Dental Association/Fédération Dentaire Internationale recommended limits of mild/moderate.

Kopel^{3 6} found similar mild reactions in capping pulpal exposures in monkeys with a commercial carboxylate cement. The effectiveness of the material was improved by the addition of calcium hydroxide. The specific value of calcium hydroxide compositions is also suggested by the work of McWalter et al.^{3 7} One possible reason for fewer or slower formation of reparative dentine bridges with zinc polycarboxylate may be a local depletion of calcium ions due to complexation by the cement (Smith, Peters and Jackson^{3 8}). Thus, addition of calcium hydroxide or salts to the polyacrylate cement would be a logical further step. Since various other additives such as antibacterial agents, fluorides and other materials which may facilitate the healing process can be incorporated without substantial impairment to the properties of these cements, the tissue acceptance of the polyacrylates provides a basic composition from which to develop a more effective pulp capping agent.

It was of interest to note that in all but one tooth the alumina reinforced zinc polycarboxylate cement proved an excellent cavity sealant. Furthermore, it was easily handled both in and out of the oral cavity. Work is on hand to develop this material further.

Summary

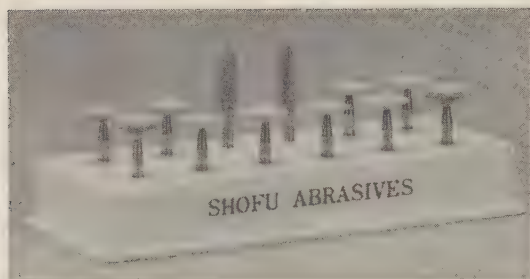
Polycarboxylate cements have good adhesive properties to calcified and soft tissues and are biologically well tolerated. Their effectiveness as pulp capping agents has been investigated and compared to zinc eugenate cement.

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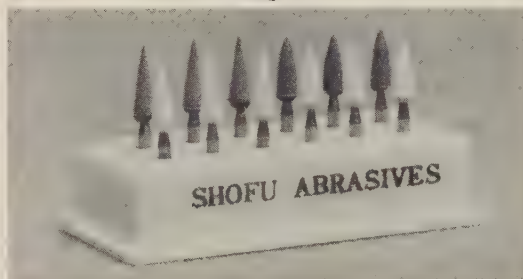
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In 1953 tetracycline was produced by removing the chlorine atom from chlortetracycline (Aureomycin). It is produced by numerous drug firms under a variety of trade names. Their sensitivity patterns are identical and, despite the claims that some produce higher blood levels requiring smaller dosage schedules, there is little to choose between them. Most authorities agree that all accepted tetracycline preparations are equally active when prescribed in the recommended dosage.

Antibacterial spectrum

The tetracyclines have a broad spectrum of activity which covers both gram positive and gram negative bacteria, but not all species of bacteria and not all strains within a given species are uniformly sensitive to their action. The *streptococci*, both aerobic and anaerobic strains, are usually sensitive, as are the spirochaetes and species of *actinomyces* which are commonly encountered in the oral cavity.

With the continued use of tetracyclines over many years, acquired resistance by the sensitive organisms has proven a problem. This is a slow process and does not occur during treatment, but has resulted in the appearance of many resistant strains occurring in common infections. It is therefore important to determine the sensitivity of isolated strains before prescribing tetracycline, particularly in serious infections.

Mechanism of action

The tetracyclines inhibit bacterial protein synthesis. They are considered to exert a bacteriostatic action. Though many authorities have a variety of theories they appear to agree on the above.

Absorption and excretion

The tetracyclines are absorbed from the gastrointestinal tract, particularly in the stomach and small intestine. Complete absorption does not occur and the higher the oral dose the greater percentage is unabsorbed. This is a problem because the residual material which then reaches the large bowel is mainly responsible for the toxic effects. Calcium and other divalent cations form insoluble complexes with tetracyclines and these will decrease absorption when milk or certain foods are ingested with the drug. Phosphate is now commonly included in preparations. This enhances absorption by protecting the tetracycline against calcium interference.

Because of the irregularity of absorption, blood levels can vary a great deal from individual to individual, but they reach their peak two to four hours after administration and decrease gradually during the following 12 hours. They are removed from the plasma by the liver, concentrated, and excreted in the urine, the remainder in the faeces. The tetracyclines diffuse readily into tissues and body fluids. They have an affinity for osseous tissue, but chiefly in areas where bone is being laid down. A similar deposition occurs in teeth and is discussed separately under toxicity and side effects.

Toxicity and side effects

Gastrointestinal — Nausea, vomiting and diarrhoea may occur in some patients, as with any orally administered antibiotic. The symptoms are due to irritation of the gastrointestinal tract and will disappear on withdrawal of the antibiotic. Severe symptoms may develop as a result of superinfection with a tetracycline resistant pathogen and in some instances the outcome will be fatal unless energetic therapy is instituted promptly. The tetra-

cyclines by their broad spectrum activity destroy many of the bacteria in the bowel, allowing resistant species to flourish. This fulminating type of diarrhoea is commonly referred to as staphylococcal enterocolitis.

Candida albicans — Superinfection with yeasts may occur as a result of tetracycline therapy, and symptoms may occur anywhere in the gastrointestinal tract. In the mouth a severe stomatitis known as "thrush" may develop. This is characterized by pain and inflammation in which the mucous membrane is covered with a greyish exudate. The tongue is particularly affected. In severe cases the infection may extend via the pharynx to the bronchi, particularly in elderly patients.

Hypersensitivity reactions have been reported in a small percentage of patients. These are usually in the form of various types of skin rashes, and are rare.

Phototoxicity has been reported, particularly as a side effect of Dimethylchlortetracycline. Photosensitivity is apparent only in patients exposed to sunlight and patients using this drug should be cautioned against this possibility.

Tetracyclines given orally in the recommended dosage have little toxic effect on the liver (oral adult dose — 500 mg four times a day). However, when large doses are given liver damage may result. Pregnant women are particularly susceptible to this toxic effect, which may have a fatal outcome.

Discoloration of teeth

As previously mentioned, tetracyclines have an affinity for osseous tissue and are deposited in areas where bone is calcifying. This occurs in teeth in the early stages of calcification and shows as yellowish staining on the formed tooth. The tooth discoloration varies from grey to brown hues under normal visual light.

Staining of the deciduous teeth may occur *in utero* if the mother is treated with tetracycline after the fifth month of pregnancy. In children, discoloration of permanent teeth may occur following tetracycline therapy from six months of age when the incisors begin to be formed until after the fourth year when the molars are forming.

Therapeutics

The tetracyclines were the first of the broad spectrum antibiotics and at the time of their introduction were considered to be invaluable and were very widely used in dentistry. A segment of the profession continues to use them in a variety of situations, especially topically, for example, in root canal therapy, in patients with pericoronitis and osteitis. The effectiveness of the tetracyclines in

such cases has not really been evaluated. There is some doubt as to their efficiency when used as topical oral agents, considering the fact that they are bacteriostatic in action and very quickly become ineffective because of the environment of the oral cavity. In spite of the toxic effects, tetracyclines as administered in dentistry, systemically can be considered relatively safe. This is because of the short duration of administration. However exceptions would be in pregnancy and for children. Considering the newer agents available for the control of oral infections there is really little need for the administration of tetracycline in dental practice, but one area in which tetracycline has been used with effective results is as an alternate to penicillin in the treatment of actinomycosis.¹

Semi-synthetic penicillins

The isolation of the penicillin nucleus, 6-aminopenicillanic acid, made it possible to produce numerous new semi-synthetic penicillins. By adding different side chains to the nucleus, thousands of new penicillins were developed. Only a few of these became available for therapeutic use as many were too toxic or had little antibacterial action. Of the many preparations available only one is of practical use in dentistry.

Ampicillin-aminobenzyl penicillin was first described by Rolinson and Stevens.² This was the first of the penicillins which showed marked activity against both gram positive and gram negative organisms. It is effective against penicillin sensitive gram positive bacteria. It is destroyed by penicillinase and is therefore not useful in the treatment of penicillin resistant staphylococcal infections. The most valuable asset of ampicillin is its effective action against certain members of the coliform group of bacteria. The wide spectrum effect of ampicillin makes it an important antibiotic to be considered in the treatment of oral infections. Although most bacteria encountered in the mouth are sensitive to penicillin, they vary in the degree of their sensitivity. It appears that infections due to anaerobic streptococci will respond more quickly to ampicillin, particularly when they are encountered in a mixed infection with gram negative bacteria, as is so often the case. Its mechanism of action, its absorption and excretion, its toxicity and side effects are essentially the same as any of the penicillins. One must keep in mind that it should never be administered to the penicillin allergic patient.

Therapeutics — Ampicillin has been more or less ignored by the dental profession, but it would appear that there is a place for its administration.

This could be a useful antibiotic as *in vitro* tests show that most species of the oral microflora are sensitive to its action. It has been fairly widely used in medicine for a variety of infections but the data for its use in dentistry are sparse. (Oral adult dose — 500 mg four times a day).

Cephalosporins

This group of antibiotics was originally isolated from a species of *cephalosporium* found on the sea coast of Sardinia near a sewer outlet. The original crude extracts contained three cephalosporins. Of the three, cephalosporin C was the most promising. The crude extracts gave a very low yield of this antibiotic and it was not until the isolation of 7-amino cephalosporanic acid (7-ACA), the nucleus of the active substance, that it became possible to produce semi-synthetic compounds with a high degree of antibacterial activity. The early preparations were for parenteral use only which was a disadvantage to the dentist. Recently acid stable preparations have been synthesized which can be administered orally. Of these, cephalexin is considered to have the least toxic effects and can be administered with comparative safety in office practice.

Antibacterial spectrum

Cephalexin has a broad spectrum of activity, being effective against many strains of both gram positive and gram negative bacteria. Organisms found in the oral cavity are in general sensitive to cephalexin, particularly the *Alpha streptococci* and the oral *Neisseria*. Anaerobic streptococci are sensitive, but to a lesser extent than to benzyl penicillin, as are the fusiform bacilli and bacteroides species. Many oral spirochaetes, on the other hand, are highly sensitive.

Mechanism of action

The cephalosporins have a bactericidal action which is similar to that of penicillin. They interfere with bacterial cell wall synthesis preventing the formation of a stable structure. This results in an osmotically sensitive cell with the production of swollen forms (protoplasts) and lysis of the cell.

Absorption and excretion

After oral administration the drug is rapidly absorbed and peak blood levels are obtained in one hour. It is excreted in much the same manner as penicillin but at a much slower rate via the renal tubules, and a large percentage of the dose can be found unchanged in the urine.

Toxicity and side effects

Gastrointestinal symptoms are occasionally encountered after oral administration of the antibiotic but the most serious adverse side effects are the allergic reactions which are similar to those encountered in penicillin hypersensitive patients. Although there is no evidence of cross allergenicity with penicillin, reactions to the cephalosporins in penicillin allergic patients have been recorded. Since this antibiotic has not been used widely there has been no opportunity to report other side effects.

Therapeutics

Cephalosporins are comparatively new and have not been used widely, particularly by the dental profession, as it is only recently that a preparation for oral administration has become available. The oral flora commonly involved in dental infections has been shown to be highly sensitive to cephalixin. Recently in a clinical research project the authors were able to show that there was practically no resistance to the antibiotic in organisms isolated from oral infections. Since it has a broad spectrum of activity and can be administered without difficulty and, considering the low incidence of toxicity and side effects, it would appear that this is a reliable and comparatively safe antibiotic. However, it is contraindicated in the penicillin hypersensitive patient as it is possible that there may be cross allergenicity, and because of its limited use to date it is difficult to foresee other side effects that may evolve from prolonged usage.

Accepted preparations

Ampicillin — Amcil (P.D. & Co.), Ampen (Empire), Ampicin (Bristol) Pembritin (Ayerst), Polycillin (Will)
Cephalexin — Keflex (Lilly)

For other acceptable preparations of tetracycline consult the *Compendium of Pharmaceuticals and Specialties*, 8th edition 1973, published by the Canadian Pharmaceutical Association.

Dr. Francis is professor and chairman, Dental Pharmacology and Therapeutics, and Dr. deVries is associate professor of microbiology, McGill University, Montreal.

- 1 O'Mahony, J.B. Brit Dent J 121:23, 1966.
- 2 Rolinson, G.N. and Stevens, S. Brit Med J 2:191, 1961.

Suggested reading — Kucers, A. The use of antibiotics: A comprehensive review with clinical emphasis. Philadelphia, Lippincott, 1972.

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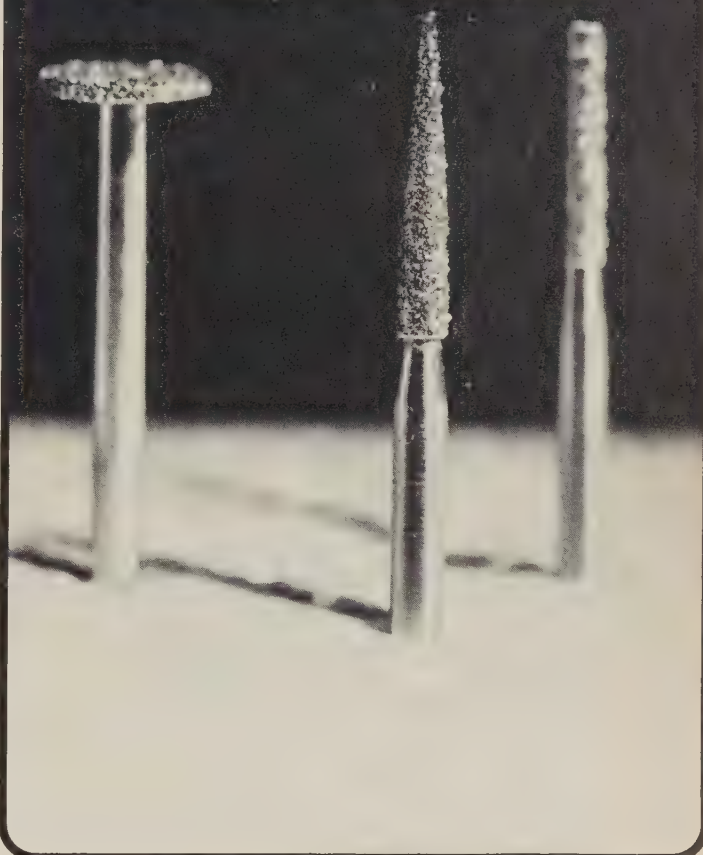
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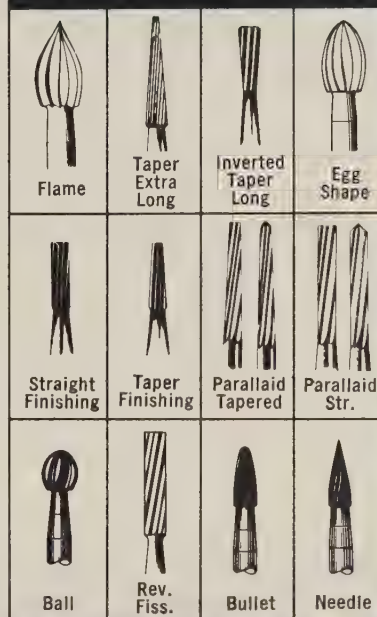
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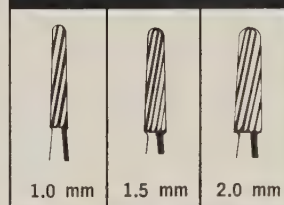
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ADVERTISERS' INDEX

	Page(s)
Ash Temble Ltd.	393
Astra Pharmaceuticals (Canada)	OBC
Block Drug Company (Canada) Limited	334, 349
L.D. Caulk Company of Canada	IBC
Ceramco Inc.	341
City National Leasing	391
Denco	332
Dentsply International	328, 346, 354, 365
Charles E. Frosst & Co.	333
Inter-Unitek Canada Ltd.	389
Janar Co. Inc.	362
Kodak Canada Ltd.	361
J. Morita Corporation	330
Proctor & Gamble	327
Shaw Research	340
Shofu Dental Corporation	384
The Upjohn Company of Canada	342
Weil Dental Supplies Limited	366
Whaledent Inc.	352
S.S. White Company	358
Williams Gold Refining Co. (Canada) Ltd.	IFC



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vous inscrire aux guichets d'inscription du Congrès, à l'Hôtel Four Seasons Sheraton, à votre arrivée. Les expositions commerciales et la plupart des réunions des sections auront lieu aussi à l'Hôtel Four Seasons Sheraton. Les séances scientifiques générales auront lieu aux deux Hôtels Four Seasons Sheraton et le Downtown Holiday Inn. Ces deux hôtels qui serviront de centre principal sont très près l'un de l'autre, et font respectivement parti d'une chaîne d'hôtel mondiale.

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CONVENTION DELEGATES TO HEAR TASK FORCE CHAIRMAN

One more vitally important reason has been added to the many which indicate that this is the year to attend the National Convention in Toronto, October 6-9. Dr. John B. Macdonald, Chairman of the Task Force on CDA, will be the keynote speaker at the opening ceremonies, Sunday, October 6. The Task Force report will be under consideration by the Executive Council and Board of Governors at that time and as a member, you'll want to hear what Dr. Macdonald has to say.

Important and far-reaching recommendations will be contained in the Report and are expected to play a key role in the possible reshaping of the Association. Survey Questionnaires mailed to every member in April/May are now being returned for computer tabulation.

ALBERTA DENTISTS SUPPORT OTTAWA MOVE

The Alberta Dental Association has followed the lead of Manitoba in voting to assist the CDA financially if national headquarters is moved from Toronto to Ottawa. It was conceded in the discussions that corporate bodies in the less populous provinces are more dependent on the CDA than are Ontario and Quebec and are, therefore, more anxious to see the move undertaken for the general good of dentistry in Canada.

The approved motion states that the Alberta Association will give favorable consideration to providing additional financial support to the national Association.

LIAISON WITH PROVINCIAL HOSPITAL SERVICES

The CDA Council on Hospital Services has agreed to invite the chairmen of provincial hospital services committees to future meetings of the Council. The move should encourage the development of useful joint provincial/national accreditation surveys and an increased exchange of information.

A recent Council survey of Canadian hospitals with 200 beds or more showed that while 185 had dental services available only 169 of these had an established dental department and only 25 had been accredited by CDA. Not all small hospital programs need to be accredited and to this end, G.K. Hurd of Kitchener was asked to develop suggested guidelines.

BANK PLAN LOAN

Proposals for a "new graduate loan repayment plan" to be combined with a bank loan program which would be available to all CDA members has been approved in principle by the Executive Council and returned to the Council on Insurance and Investment for development.

GROUP LIFE FOR DENTAL ASSISTANTS AND HYGIENISTS

The Council on Insurance and Investment also accepted a group life plan for dental assistants and hygienists. Coverage is to be arranged so that if membership regulations of auxiliary groups change, individual assistants and hygienists could continue coverage on an individual basis.

LE PRESIDENT DU GROUPE D'ETUDES S'ADRESSERA AUX DELEGUES DU CONGRES

Un motif nouveau, d'une importance essentielle, vient s'ajouter aux nombreuses raisons qui réclament votre assistance au Congrès national de Toronto, du 6 au 9 octobre prochain. La présence du docteur John B. Macdonald, président du groupe d'études sur l'ADC dont la communication constituera la dominante des cérémonies d'ouverture, le dimanche 6 octobre. Le rapport du groupe d'études fera l'objet de la considération du Conseil exécutif et du Conseil des Gouverneurs, et vous voudrez profiter de la circonstance pour entendre le docteur Macdonald.

Ce rapport comprendra des recommandations importantes et à long terme qui auront vraisemblablement une influence majeure dans la restructuration de l'Association. Les questionnaires de l'enquête, adressés au secrétariat pour y subir une compilation électronique.

LES DENTISTES DE L'ALBERTA APPUIENT LE TRANSFERT A OTTAWA

L'Association dentaire de l'Alberta, à l'instar du Manitoba a voté d'assister financièrement l'ADC dans l'éventualité du transfert du secrétariat de Toronto à Ottawa. Au cours des discussions, il fut admis que les corporations des provinces moins peuplées sont plus dépendantes de l'ADC que l'Ontario et le Québec. En conséquence, ces corporations désirent davantage le transfert dans l'intérêt général de la dentisterie au Canada.

La motion adoptée déclare que l'Association de l'Alberta envisagera favorablement d'apporter une assistance financière additionnelle à l'Association nationale.

LIAISON AVEC LES SERVICES HOSPITALIERS PROVINCIAUX

Le Conseil des services hospitaliers de l'ADC a approuvé l'invitation des présidents de comités des services hospitaliers provinciaux à participer aux futures réunions du Conseil. Cette attitude du Conseil devrait encourager l'existence d'enquêtes provinciales-nationales conjointes sur l'agrément, et accroître aussi l'échange de renseignements.

Une récente enquête du Conseil sur les hôpitaux canadiens de 200 lits ou plus a révélé que sur les 195 qui disposaient de soins dentaires, 169 étaient pourvus d'un service dentaire organisé, dont 25 seulement détenaient l'agrément de l'ADC. Comme tous les programmes des hôpitaux mineurs ne requièrent pas l'agrément à cette fin, le Conseil a demandé au docteur G.K. Hurd, de Kitchener, de préparer un projet de directives.

ASSURANCE EN GROUPE SUR LA VIE POUR LES AUXILIAIRES ET LES HYGIENISTES

Le Conseil de l'assurance et des placements a aussi approuvé un régime en groupe sur la vie, à l'intention des auxiliaires dentaires et des hygiénistes. La couverture doit garantir l'assuré contre les changements de règlements régissant les groupes auxiliaires, en permettant aux auxiliaires et aux hygiénistes de conserver leurs avantages, à titre individuel.

PLAN DE PRETS BANCAIRES

Le Conseil de l'assurance et des placements a étudié des propositions relatives à "un nouveau plan de prêts à remboursements gradués" qui sera inclus dans un programme de prêts bancaires disponible à tous les membres de l'ADC. Le Conseil exécutif de l'ADC a approuvé le plan et l'a renvoyé au Conseil de l'assurance et des placements pour son amplification.

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Normal home usage—children—J. Canad. Dent. Assn. 38:155, 1972

Fluoridated water—children—J. Dent. Child. 38:211, 1971

Supervised brushing—children—J.A.D.A. 58:42, 1959

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of the Canadian Dental Association
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June/Juin 1974/Volume 40/No 6

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Executive Affairs	413
Editorial	
Block-head Charlie speaks out again	408
Continuing education and re-education	408
Special Features	
Status of continuing education	430
Throughout life: The need for continuing education — Beagrie	434
Regular Features	
Dentistry in the news	415
Les actualités dentaires	425
Letters to the editor	405
Deaths	422
Library Additions	439
Announcements	402
Articles	
Dental care in Alberta: Public attitudes, utilization patterns and socio-economic determinants — Bene, Novasky and Geldart	444
Classified advertising	453
Advertisers' index	460

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La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.

Announcements/Avis

Information about other meetings or courses, including American continuing education courses, may be obtained by writing to CDA headquarters.

Canadian Dental Association

1974 Toronto, Ont, Oct 6-9

Complete details available from registration form. See last page.

1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14

1975 Chicago, USA, Oct 26-30

Canadian Meetings

Association of Canadian Faculties of Dentistry / L'Association des Facultés Dentaires du Canada, at Digby Pines, Digby, N.S. June 17-19, 1974. Dr. G.W. Myers, 3036 Dentistry/ Pharmacy Centre, University of Alberta, Edmonton, Alberta T6G 2H7.

Canadian Public Health Association, at the Arts and Culture Centre, St. John's, Nfld. June 18-21, 1974. CPHA, 55 Parkdale Ave., 3rd floor, Ottawa, Ont. K1Y 1E5.

Northern Ontario Dental Association, at North Bay, Ont. Sept 6-8, 1974. R.C. Weegar, 539 Cassells St, North Bay, Ont.

Canadian Association of Orthodontists, at Toronto, Sept 28, 1974. J.J. Schachter, Box 952, Saskatoon, Sask.

Canadian Academy of Periodontology, at Hyatt Regency Hotel, Toronto. Sept 29-30, 1974. J.D. Stewart, 311 Rubidge St, Peterborough, Ont. K9J 3P3.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd, Ste 810, Toronto, Ont.

Association of Prosthodontists of Canada, at Hyatt Regency Hotel, Toronto. Oct 4-6, 1974. G. Zarb, Faculty of Dentistry, 124 Edward St, Toronto, Ont. M5G 1G6.

Canadian Academy of Oral Radiology, at Toronto. October 6, 1974. D.W. Stoneman, Dept. of Radiology, Faculty of Dentistry, 124 Edward St, Toronto M5G 1G6.

Canadian Society of Public Health Dentists, at Toronto. Oct 6-7, 1974. J.M. Conchie, 14265 - 56th Ave., Surrey, BC.

Society for Clinical and Experimental Hypnosis, Scientific Program and Workshops, at the Ritz-Carlton Hotel, Montreal. Oct 8-13, 1974. Germain Lavoie, Hopital Saint-Jean-de-Dieu, Montreal, Que. H1N 1Z0.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov 28, 1974. Mrs. P. Williams, 230 St. George St, Toronto, Ont. M5R 2P1.

Vancouver and District Dental Society, at Vancouver, Dec 6-7, 1974. Vancouver and District Dental Society, Suite 325, 925 West Georgia St, Vancouver 1, BC.

Manitoba Dental Association, at Holiday Inn, Winnipeg. January 17-18, 1975. Dr. P.R. Crawford, Chairman, MDA Annual Meeting, 308 Kennedy St, Winnipeg, Man. R3B 2M6.

College of Dental Surgeons of British Columbia, at Hyatt Regency Hotel, Vancouver. Apr 30 - May 3, 1975. K.L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC.

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W.C. Durham, 230 St. George St, Toronto, Ont. M5R 2P1.

International Meetings

Asian-Pacific Dental Congress, at Jakarta, Indonesia. June 18-22, 1974. Dr. Yetty Rizali Noor, Faculty of Dentistry, Trisakti University, Grogol, Jakarta, Indonesia.

Pan American Congress of Oral Facial Rehabilitation, at San Diego, Calif. June 28-30, 1974. PACOFR, Suite 411, Medical Centre, 2850 Sixth Ave, San Diego, Calif. 92103, USA.

Australian Orthodontic Congress, at Sydney. Aug 5-9, 1974. P. Kinsella, 11 Anderson St, Chatswood, N.S.W. 2067, Australia.

New Zealand Dental Association, at Auckland. Aug 26-30, 1974. Conference Secretary, New Zealand Dental Association, PO Box 28084, Auckland 5, NZ.

Annual World Dental Congress of the FDI, at Royal Festival Hall, London. Sept 8-14, 1974. A.G. Alexander, British Dental Assn, 64 Wimpole St, London, England.

American Institute of Oral Biology, at Palm Springs, Calif. Oct 25-29, 1974. Membership Chairman, P.O. Box 897, Glendora, Calif 91740, USA.

American Dental Association, at Washington, DC. Nov 10-14, 1974. American Dental Assn, 211 East Chicago Ave, Chicago, Ill. 60611, USA.

Pacific Dental Federation, at Acapulco, Mexico. April 20-26, 1975. J. Alvarez, Federacion Dental del Pacifico, Ezequiel Montes 92, Mexico 4, D.F.

Belgian Congress of Dental Medicine, at Ostend, Belgium. May 8-10, 1975. J. Vandeneeycken, Société Royale Belge de Médecine Dentaire, Chaussée d'Etterbeek 166, B-1040, Brussels, Belgium.



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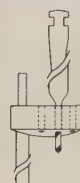
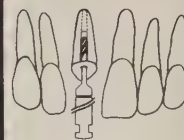


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Sweet snacks

I have several comments regarding the article, "Help your patients kick the sweet snack habit," published in the February issue of the *Journal*.

I was a little surprised to note the recommendations by a paedodontist of a great number of artificially sweetened foods in his list of suitable snacks. I have always considered artificial sweeteners as drugs, only to be used by people who are on special diets where sugar metabolism is improperly regulated.

It seems to me from readings of recent news items that after "sucaryl" no artificial sweetener is safe, including saccharine. There is, as well, another class of sweetener, including mannitol and sorbitol, which ferment and metabolize differently than sugar, supposedly, with less decay potential, and found in "sugarless" gums.

My question to Dr. Truuvert is whether these really work significantly in reducing caries. Have any controlled studies been done? What percentage reduction can be expected? Will over use negate any beneficial effects? What are Dr. Truuvert's sources of research information?

It is well known that artificial sweeteners cannot satisfy a craving for sweets and in my opinion, the use of artificial sweeteners is a wobbly crutch.

My advice to patients is simply that they do not attempt to cut out sweets completely but rather cut down to one sweet per day eaten as quickly as possible, preferably at an active time of day or after meals. Secondly, no sweets or sugar-containing foods, or any foods producing sweet breakdown products, are to be eaten after supper, including breads, crackers or biscuits. Cheeses, peanut butter (unsweetened), etc. may be eaten freely.

I would be interested in hearing from Dr. Truuvert if she cares to reply to this letter.

David Zacharin, D.D.S.
5165 Queen Mary Rd., Suite 501,
Montreal 248, Que.

First, you mention "the great number of artificially sweetened foods". In the acceptable substitutes, I list coffee and tea with artificial sweetener, if so desired, and diet soft drinks. I am fully aware that there is very active research going on about all artificial sweeteners. So far, however, Canada's health authorities have found no reason to

ban the artificial sweeteners presently used. If research turns up anything close to harmful about them, they will be removed from our list of suitable substitutes and probably from the market as well.

The recommendations about sugarless gum are based on Dr.

(Continued on page 407)

Personal touch?

Ever wonder what happens if your mail order is "short shipped", "fouled up" or "still in transit" just when you need it most. Who do you speak to if your package arrives in crumpled condition... and how quickly can the damaged products be replaced?

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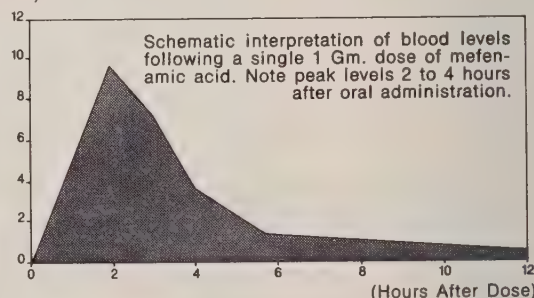
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Clinical experience has shown that side effects with PONSAN are few and mild at the recommended dosage, but are readily detected and easily controlled when resulting from high dosage or long-term use.

Plasma Levels
(mcg./ml.)



*References available upon request.

Dosage and Administration: Adults and adolescents over 14 years of age — 500 mg. (2 capsules) as an initial dose, followed by 250 mg. (1 capsule) every six hours as needed. The major portion of clinical experience with PONSAN has varied from single doses to 84 days of therapy.

Contraindications: Intestinal ulceration; diarrhea as a result of taking the drug; safe use in pregnancy not established; in children under 14 years of age until pediatric dose has been established.

Precautions: Administer with caution to patients with abnormal renal function, inflammatory diseases of the gastrointestinal tract, or those on anticoagulant therapy. Discontinue if diarrhea or rash occurs.

Side effects: Mild and infrequent at doses up to 1500 mg. per day; dose-related, being more frequent with higher doses. Most frequently reported: drowsiness, dizziness, nervousness, nausea, diarrhea, G.I. discomfort, vomiting. For detailed information on Precautions and Side Effects see product brochure available on request.

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Letters to the Editor (Continued from page 405)

Richardson's study (J.C.D.A., June 1972) and also on Dr. M. Graaff's studies on plaque pH behaviour. Sugarless gum, by stimulating salivary flow, affects plaque pH in a positive manner. Regular chewing gum also stimulates the flow of saliva, but at the same time the sugar released from the gum will counteract the effect of stimulated saliva on plaque pH (Ericsson, Y. Clinical Investigations of the Salivary Buffering Action. *Acta Odont Scand*, 17:131, 1959; Dreizen, et al. Buffer Capacity of Saliva As a Measure of Dental Caries Activity, *Journal of Dental Research*, 25:213, August 1946, and many others). The behaviour of plaque pH under these different circumstances explains also that an "overuse" of sugarless gum will not do any harm.

I do not quite agree with your statement about it being well known that artificial sweeteners cannot satisfy a craving for sweet. I do agree that artificial sweeteners are a crutch, but in my opinion, a necessary one, and if properly used as we direct in our counselling, only a temporary one. It is an established fact that much of our snacking is emotional. It is also a fact that the craving for sweets is a habit comparable to a craving for cigarettes etc., only a bit stronger.

In growing children, between-meal snacking is often caused by a hidden hunger. If the craving is satisfied by a sugary sweet (often the easiest and cheapest way), the blood glucose level

will increase fast, triggering off a sudden increase in insulin production. This will bring the glucose level down fast. The insulin level, however, will remain a little higher than normal, producing a state known as a slight hypoglycemia — a feeling of weakness and hunger. This calls for a new snack and a vicious circle can be started. The advice about equal caloric substitution is based on this fact — if the hunger is satisfied with foods of higher protein, fat or starch content, which take a little longer to reach the blood initially, but take much longer to break down completely, the hypoglycemic condition will not be reached. If this new snacking pattern is being introduced to a caries susceptible patient with a "sweet tooth", we find that artificial sweeteners *may* be of some value at the beginning, especially if used in diminishing quantities, until the body has established the fact that sugar really is not needed.

I was glad to see that your advice about concentrating the sugars to meals only agreed with ours so well. However, we are not so severe about starches; Toverud's studies of wartime European diets and caries incidence, Dr. Marthaler's studies (*Caries Research* 1:222, 1967, Hardwick's study *British Dental Journal* 108: 9, 1960) all point toward starch not having great significance in dental caries formation particularly in children and young adults. In root caries, however, starches may be of more consequence, and in patients with root caries prob-

lems, our advice will vary — it was impossible however, to squeeze very much information on one page, and as caries is predominantly a disease of youth in our society, the advice was geared to the younger generation. I am currently working on a longer article for C.D.A. Journal, dealing with all these problems in the older generation as well.

In growing children, especially where parents are still in control, we *never* encourage artificial sweeteners.

In teenagers, we sometimes find it necessary to suggest diet soft drinks as substitutes, often as a last resort (especially in our Italian population). We have not really encountered any other uses of sugar substitutes in children, as the use of coffee and tea as an unavoidable snack does not normally start until adulthood.

I am enclosing copies of two of my articles on practical clinical approach to diet counselling problems. In all these, we try to help the hygienist or G.P. who has an average scientific background and is looking for practical tips for dispensing advice in a way which is most readily accepted by as many people as possible.

It was very interesting to hear from a practitioner who gives diet counselling in his practice. If I can be of any further assistance, please write.

M. Truuvert, D.D.S., Department of Preventive Dentistry, University of Toronto, 124 Edward St., Toronto, Ont. M5G 1G6.

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CANADIAN RESEARCH

Introductory
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Block-head Charlie speaks out again

We had just got the other shoe off and were anticipating a hot shower, when over the top of the locker came the loud voice of Charlie.

"Why should I chip-in to join the CDA if it goes voluntary? I get gouged enough from my own provincial outfit – how many politicians am I supposed to support anyway? Council on this – council on that – they all have their hands in my pocket-book."

Another voice, "Oh boy! Charlie the statesman is on the soap-box again! Look man, imagine yourself on your annual Canadian's winter trip to the sunny south talking with an American dentist and he says, I understand that up in Canada there is no national dental organization – no national educational standards – no national or international voice for dentistry at all. You guys are really asking for it aren't you? The provincial governments can pick you off one at a time whenever they want. Now, down here in the U.S.A. we are smart. We stand together through the ADA and we also keep a strong voice for dentistry in Washington where national decisions are being made."

Still another voice, "Charlie, you are a block-head. Your CDA membership doesn't cost more than a weekend at your usual fancy beach hotel – and it's deductible. We have got to have a national association to survive as a profession. Not only that, we need to have strong ties with international dentistry. You can't be serious when you say a provincial association is all that's needed when federal money underwrites provincial health services and education. There has got to be a national voice for dentistry in Ottawa."

Charlie, roaring with laughter, "That really got a rise out of you! Listen, I filled in my Task Force questionnaire and sent it in with lots of good suggestions. I said there is no way Canadian dentists can look after this country's oral health properly unless we are a nationally organized profession. But I told them to get busy on things that are needed, like the economic problems of dental practice. And although I wouldn't be in favour of dentists going on strike, I said we should be thinking of how we can really stand together on issues like the patients having freedom of choice of dentist, fee schedules, etc."

All together, "Always knew you were smart, Charlie."

Continuing education and re-education

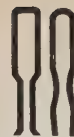
We think it is about time the profession got around to becoming "specialists of dentistry." The trend in Canadian provinces is toward continuing education as a legal requirement for annual licensure. When we consider that scientific knowledge doubles every decade, few will dispute the wisdom in asking all members of our profession to provide some evidence that they are keeping up-to-date with modern developments. But particularly for the general practitioners of dentistry, a far more vital and long term educational challenge exists if they are to survive in the age of auxiliaries. The role and capabilities of the general practitioners must be rapidly up-graded so that they can treat many cases currently being handled only by specialists. How many of our general practitioners have allowed themselves to drift into a situation where even they conceive of their responsibility as only embracing restorative and exodontic therapy?

It is not good to see the major dental specialties developing into domains of practice where the generalist dare not tread. For dentistry to achieve its rightful place as a medical specialty, each dentist must become re-educated to cope in a larger way with all branches of dentistry. This is not to say that specialists in orthodontics, periodontics, endodontics, oral surgery, etc. are not needed, but it is to say that in the future specialists within dentistry should "earn their keep" by virtue of very superior knowledge and skill which qualifies them to handle the especially difficult problems – the usual cases, whatever the type, should be within the skill of the "specialist of dentistry." We wish to make it very clear that this is quite different (and the portents also) than the regrettable drift toward deferral of cases to specialists merely because the patient requires something beyond treatment for dental caries. A major reformation of our undergraduate dental curriculum is deferred each year at the increasing peril of the profession itself. We hear ten faculty councils say that the curriculum is already over crowded. We answer "then prepare to throw out everything that can be taught to auxiliaries and begin to educate specialists of dentistry."

R.M.G.

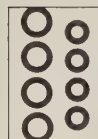


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Smaller head for more effective access to plaque

The Softex head is smaller, more maneuverable than other leading soft brushes. Small enough for access to all tooth surfaces—even the hard-to-reach buccal and lingual anterior surfaces which show the greatest accumulation of plaque.* Toothbrush contours are round, smooth, not angular, to prevent possible injury to mucous membranes.



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More bristles for greater cleaning power

Softex combines over 2,200 bristles with a smaller brush head to provide improved cleaning power.

*Goldman, H. M., and Cohen, D. W.: Periodontal Therapy, ed. 4, St. Louis, The C. V. Mosby Company, 1968, pp. 319-320.

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CDA National Convention Oct. 6-9

Takes you to the heart of Ontario

Connoisseurs of travel who want to sample here and sip there, choose Ontario for a vintage vacation. Nowhere else in Canada is there quite the same combination of history and scenic splendor, cityscapes and pastoral beauty, action sports combined with sightseeing. That's one reason why Convention '74 in Toronto will undoubtedly turn out to be the choice of vacation-bound dental families. Whether you choose extra time before or after the scientific sessions, you and your family will find Ontario is brimming with ideas.

Explore the "Land between the Lakes" and the "Golden Horseshoe" where most Ontarians live and work. Follow the "Heritage Highways" along the old water and trade routes between the Ottawa and St. Lawrence Rivers, or follow the explorers into "Champlain Country." Go north to the "Arctic Tidewaters" and west to the "Wilderness Way of the Voyageurs."

Your first stop will probably be at a Government of Ontario tourist information centre, but to help you choose, the *Journal* lists here some of the outstanding attractions to be found in each of Ontario's six distinctive tourist regions.

Land between the Lakes — the stretch of country between Lakes Ontario, Erie and Huron. Obviously, lakeshores will catch your eye from Point Pelee National Park in the south to the rockbound coast of the Bruce Peninsula in the north, with miles of beautiful beaches in between.

Ontario's most fertile acres are found inland, in country which teems with reminders of the colonial past. That's where you also find Stratford and the Festival Theatre on the banks of the Avon River. Everywhere you go, there are well-tended provincial parks and picnic sites, marvelous hotels and motels, wayside inns and splendid restaurants.



There is home-baked goodness for sale at the Farmers' Market in Kitchener-Waterloo. Shoo-fly pie alone is worth the trip.

Golden Horseshoe — the living room and workshop for almost half the population of the province. Here is where you find that perennial favorite, Niagara Falls, and the fascinating historical sites of the late 1700's and the War of 1812. The Royal Botanical Gardens at Hamilton offer over 1900 acres of displays; and at the African Lion Safari are more acres in which 60 jungle kings roam free and unfettered. What fun to get up at sunrise one Wednesday or Saturday to visit the Amish and Mennonite Farmer's Market at Kitchener-Waterloo!

Heritage Highways — were traversed by Jean de Brebeuf, Champlain and the United Empire Loyalists. You can walk beneath the walls of Old Fort Henry and visit the Royal Military College Museum; cruise the St. Lawrence and the Thousand Islands, before dropping in on life as it's recreated at Upper Canada Village. Now it's time to follow the Ottawa River to the nation's capital, to visit Parliament Hill, and the National Arts Centre. In October, the Gatineau Hills should be

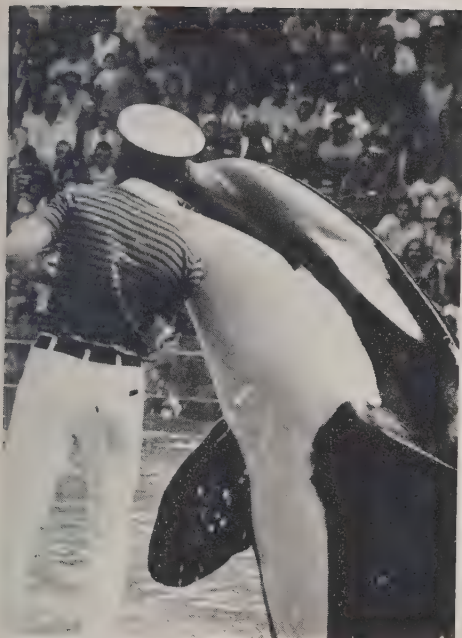
turning to scarlet before the maple trees drop their leaves.

Champlain Country — stretches to the shores of Georgian Bay, where in 1610-11 the young Frenchman, Etienne Brule, went to live with the Huron Indians. In 1639, the Jesuits had settled along the River Wye at Sainte-Marie Among the Hurons. Their settlement has now been painstakingly rebuilt and nearby is the Martyrs' Shrine with the graves of Brebeuf and Lalemant. You may want to follow the Trent Canal or visit Stephen Leacock's home in Orillia. Some may turn off to the Muskoka Lakes — one of the best areas in which to see the blazing fall colors.

Arctic Tidewaters — finds the traveller either on the shores of James Bay or those of Lake Superior, with many a contrast in-between. This is the richest ore country in the world and the skyline at Sudbury is dominated by the most expensive nickel ever created — a 30-foot-high coin worth \$35,000. This is great hunting and fishing country with plenty of accommodation to

Scientific program

OUTSTANDING CLINICIANS



Great family fun at the Marine and Game Farm, Niagara Falls.

suit every budget. Special attraction is the Ontario Northern Railway excursion to Moosonee on James Bay, via the popular Polar Bear Express. In the fall, the region around Moosonee is the site of the world's most extraordinary goose hunt as literally millions of geese pause on their way to southern wintering grounds.

Wilderness Way — an area of nearly 200,000 square miles of nature in the rough. Along Lake Superior's shores you can find rock remnants of earth's earliest history. Here the most prized hunting trophy is the bull moose — whether you go after him with a camera or a gun. Fish abound, as is only natural in a land where it sometimes seems there's more water than land. Prairie dwellers will want to visit Thunder Bay where the great grain elevators hold the wheat harvest for export.

All these contrasts are what make Ontario such a great vacation land. Savour it as part of your pleasure in attending the CDA's national convention in Toronto.

Phillips to speak on "Changing Concepts"

Dr. Ralph Phillips, world dentistry's foremost investigator of dental materials, will be addressing the CDA Convention on "Changing Concepts in Restorative Dental Materials."

Any convention fortunate enough to have Dr. Phillips on its program doesn't need to publicize his accomplishments, just his presence. His programs and lectures, hundreds of publications and texts, as well as his research results have served as a guide to thousands of dentists.

Dr. Phillips is currently in the fourth year of an evaluation of composite resins including their use in class IV and class II restorations. His knowledge of adhesive restorative systems, acid etch techniques, fluoride containing cements and restoratives, dispersion and spherical alloys, carboxylate and zinc oxide-eugenol permanent cementing agents will clarify much of the controversy related to the many new products available and the claims made for them.

Prominent oral surgeon

Paul Chapnick, prominent Toronto oral surgeon, has planned a presentation which will be of great value to anyone involved in office or hospital surgical procedures. He will approach surgical problems from the point of view of the exceptional susceptibility of the jaws to destructive infections. Management of this problem, pre and post-operatively, will be discussed along with dry socket therapy and treatment for the many complications associated with tooth removal.

Dr. Chapnick's postgraduate training at Boston University and Harlem Hospital, New York, has given him a background well suited to his present position as Chief of Dentistry, Northwestern General Hospital, Toronto.

The porcelain fused to gold restoration

Dr. Donald Kramer brings an exceptionally broad background to his Convention presentation on "The Porcelain Fused to Gold Restoration." In addition to an MScD. in crown and bridge from Indiana and an assistant professorship at the University of North Carolina, he has also served as consultant to the U.S. Public Health Service and J.F. Jelenko and Company.

As a result of this involvement in testing and evaluating materials, plus his experience in university and private practice, his presentation will be practical, interesting and authoritative. His comments on the new, semi and non-precious porcelain alloys will be especially appreciated for their timeliness.

ALL ABOUT EVE

Pamper yourself with wine, fashions, music and food at the Hyatt Regency, Monday, October 7 during the National Convention. The elegant Regency Ballroom is the setting and the Patricia White Shop of Toronto provides the fashions. The luncheon is billed as being "All about Eve" and promises to be one of the highlights of the ladies' program.

At the Holiday Inn, on Tuesday October 8, everyone is invited to see what liberated dental wives are up to these days. The Ladies Committee have discovered a cornucopia of talent in the arts, in crafts and hobbies. All will be displayed to full advantage so that you can share this new approach to leisure time. Go along just to admire ... or get some new ideas for your own talented use.

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Never before this unique combination of benefits for doctor and patient in one dental chair. First, flexibility. A new traverse feature insures a constant operating position by keeping patient's head in a vertical column as chair is reclined. Work field is always where you want it. Chair top traverses 14" to accommodate instrument position. Rotates 350°+ to facilitate x-ray location. Descends to an extremely low 10½" for sit-down dentistry. Ascends to an extremely high 32" for stand-up dentistry.

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and upper arm supports adjust to all types of patients. Last, not least, the beauty. Slim, crisp styling. Choice of 4 rich-looking standard wood-grain effects and 11 standard, coordinated Herculon-Naugahyde upholsteries. A look patients relate to and relax with. All this and much more you must see and experience to believe.

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President John E. Abra

Why CDA must go to Ottawa

One of the findings of the Thorne Group Ltd., who conducted a study of the association in 1971, was that facilities available in the present headquarters were not adequate to implement association business and, therefore, a move should be considered. This had been previously pointed out by Dr. H.R. MacLean in his president's report (1970), where he also stressed that dentistry was far too often left out of important federal planning simply because it did not seem to be around at the time and place where concepts and programs were initiated. He stated that the CDA needed to be located where there could be daily communication between itself and other agencies and organizations in Ottawa.

An Ad Hoc Committee on Association Priorities recommended that a new headquarters be constructed on National Capital Commission property on Alta Vista Drive in Ottawa, supporting its decision by the following points:

1. The present headquarters building is no longer adequate to house the essential staff.

2. Most other national health associations are now located in Ottawa.

3. Strong recommendations from national health associations now located in Ottawa indicate there are significant, political advantages to be

gained by being in the national capital.

4. Each year the construction of a new building is delayed, the costs escalate by approximately 8 per cent.

5. The property selected as most suitable for a new headquarters must be built on within three years or returned to the National Capital Commission at the purchase price.

On the basis of the above, the Board of Governors directed that specific property be purchased and that building plans be developed. These things were done and at a subsequent meeting the Board authorized the Executive Council to proceed with the building as soon as financing could be properly arranged. In the February 1973 issue of the Journal of the Canadian Dental Association some architectural details and comments on the building location were published for the profession's information.

In the last months, events have only strengthened the arguments for moving as soon as possible. A communication received by the Executive Council in March from Dr. J.B. Macdonald, chairman of the CDA Task Force, contained the following paragraphs:

"The Task Force recommends that the Association proceed immediately with the steps necessary to begin construction of the proposed new headquarters building in Ottawa. This decision was reached after a careful

analysis of the Association's financial circumstances and its future prospects. The recommendations followed an examination of documents bearing on the move, provided by you, and an extended discussion of the facts and background.

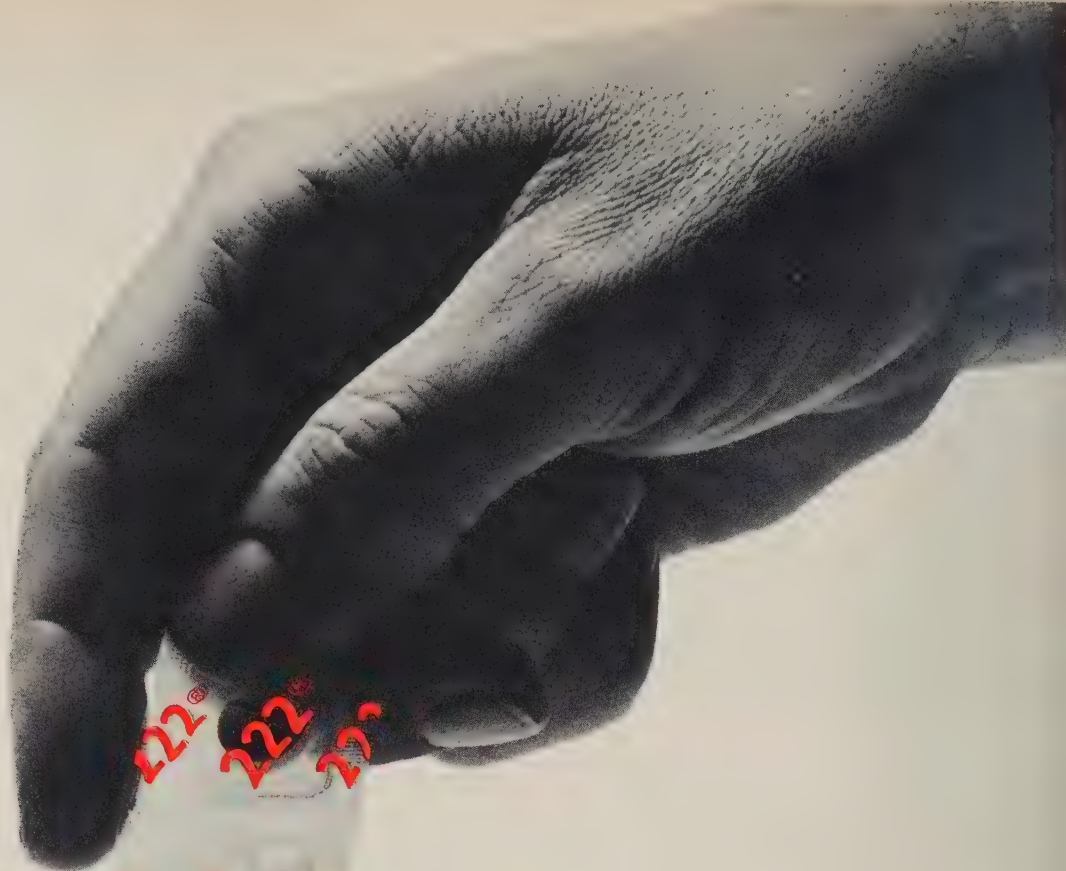
We studied the financial data which provide an estimate of some \$45,000 additional operating costs as a result of the move and obtained answers to a list of questions raised by members of the Task Force. We concluded that there are important reasons for making the move and that there is financial advantage in proceeding promptly. The principal reasons why the move is desirable include the following:

1. The Association needs to be close to government and the headquarters of other national associations of health professionals if it is to be influential in future health care policies.

2. The present facilities are seriously over-crowded and unsuitable to the operation of a business-like headquarters' activity.

3. There will be important symbolic and psychological advantages in the eyes of the membership in associating a new grass roots organization with a new and prestigious location in the nation's capital."

(Continued on page 433)



**“...but
if you feel
any pain,
take one or two
'222'* tablets.”**

Not every patient needs an analgesic after dental care — but some do, even though you have done everything possible to avoid any patient discomfort.

When a patient is in pain, or when there is a possibility that pain will occur later, suggest **Ⓢ '222'* tablets.**

'222'* is a reliable analgesic — you and your patient can depend on it.

INDICATIONS: For relief of pain, fever and inflammation as in influenza, common cold, lumbago, sciatica, headache, dysmenorrhea and trauma and following operative procedures.

ADULT DOSAGE: One or two tablets as required.

CONTRAINDICATIONS: Sensitivity to any of the components.

PRECAUTIONS: Acetylsalicylic acid may depress the plasma prothrombin concentration. Care, therefore, should be exercised when acetylsalicylic acid and anticoagulants are prescribed concurrently.

Large doses of salicylates may have a

hypoglycemic action. This may affect the insulin requirements of diabetics. Salicylates can produce changes in thyroid function tests, and slightly increase the renal excretion of uric acid.

Acetylsalicylic acid preparations should be used with caution in patients with peptic ulcer. Analgesic abuse (excessive and prolonged therapy) has been associated with renal nephropathy.

ADVERSE REACTIONS: Skin rash, gastrointestinal bleeding, headache, nausea, vomiting, constipation, vertigo, ringing in the ears, mental confusion, drowsiness, sweating and thirst may occur with average or large doses.

How Supplied

Ⓢ '222'* Tablets — White, scored tablets containing:

Acetylsalicylic acid	375 mg.
Caffeine citrate	30 mg.
Codeine phosphate	8 mg.

Available in vials of 12; bottles of 40, 100, 250, 500 and 1,000.

*Trademark



(MC-254)



SLATE READIED FOR ANNUAL MEETING



President-elect J. Fred Reid

President-elect, J. Fred Reid, has invited nominations for the election of officers and council personnel for the 1974 Annual Meeting of the Board of Governors in Toronto, beginning October 3. All nominations must be received before JULY 1, 1974.

Nominations may only be made by members of the Board of Governors, CDA council chairmen, presidents or secretaries of corporate members, presidents or secretaries of sections. Suggestions by the general membership may be made to any of these nominators. All nominations must be accompanied by the written consent of the nominee and a brief biographical sketch. Nominations should be made to Dr. J. Fred Reid, Chairman — Nominations Council, 124 East 15th Street, North Vancouver, B.C.

The following is a list of elective offices and the present incumbents. Those identified with an asterisk (*) are eligible for re-election. Except as indicated, election is for a term of three years, renewable once. Following each name is the year of expiry and whether the incumbent has been elected once or twice. Members of Councils other than the Executive Council must be individual, associate or student members of the CDA. Members of the Executive Council must be members of the Board of Governors.

President-elect

J. Fred Reid, Vancouver, B.C.

Chairman, Board of Governors
W.P. Munsie, Vancouver*

Executive Council

D.K. Peters, St. John's, Past President
J.F. Reid, Vancouver, President-elect
J.E. Abra, Winnipeg, President
H.L. Mussels, Montreal 1974 (1)*
F.T. Wihak, Regina 1974 (1)*
S. Silver, Montreal 1975 (1)
D.C. Clee, Toronto 1975 (1)

Constitution and By-laws

H.R. MacLean, Edmonton 1974 (1)*
H. Brouillet, Montreal 1976 (2)
P.S. Christie, Halifax 1975 (1)
W.J. Spence, Toronto 1975 (1)

Education

M.J. Crompton, Moncton 1974 (2)
W.H. Feasby, London 1975 (1)
L.G. Mandin, St. Paul 1976 (2)
J.D. Purves, Toronto 1974 (1)*
G.E. Decker, Edmonton 1976 (2)
E.R. Ambrose, Montreal 1975 (1)
R. Coulombe, Lachine 1976 (1)
J.D. McLean, Halifax 1976 (1)
A.G. Hannam, Vancouver 1976 (1)

Ethics

G.E. Decker, Edmonton 1974 (2)
K.F. Pownall, Toronto 1974 (2)
R.A. Epstein, Halifax 1975 (1)
J.P. Beattie, Winnipeg 1976 (1)
M.B. Archambault, Montreal 1976 (1)

Health Care

R.G. Dickson, Drumheller 1976 (1)
R.J. Kirby, Edmonton, 1976 (1)
D.E. MacFarlane, Vancouver 1976 (1)

J.W. MacKay, Saskatoon 1975 (1)
S. Norquay, Winnipeg 1975 (1)
J.A. Alexander, Ottawa 1975 (1)
S. Silver, Montreal 1976 (1)
J.T. Dowd, Moncton 1974 (1)*
D.A. Eisner, Halifax 1974 (1)*
J.R. Robertson, Summerside 1976 (1)
C.P. Daly, St. John's 1974 (1)*

Hospital Services

K.C. Bentley, Montreal 1975 (2)
G.K. Hurd, Kitchener 1975 (2)
S.M. Claman, Winnipeg 1974 (1)*
A.G. Parnell, London 1974 (1)*
P. Surprenant, Sherbrooke 1975 (1)

Information Services

W.J. Spence, Toronto 1975 (2)
D.V. Allen, Windsor 1974 (1)*
G. Baril, Montreal 1975 (1)
G.E. Sparrow, Toronto 1975 (1)
W.B. Chapple, Toronto 1974 (1)*

Insurance and Investment

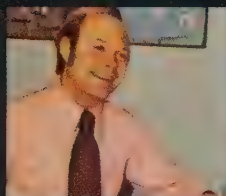
R.A. Hugill, Toronto 1974 (1)*
D.C. Way, London 1974 (1)*
R. Rasmussen, Calgary 1976 (2)
F.J. Furlong, Windsor 1974 (1)*
D.C. Steeves, Moncton 1976 (2)
O.F. Wright, Vancouver 1974 (1)
B. Trepanier, Ancienne Lorette 1976 (1)
(Three year terms, renewable twice)

Legislation

H.C. Bugden, Ottawa 1976 (2)
K.F. Pallett, Ottawa 1974 (2)
O.H. Phillips, Ottawa 1975 (1)

(Continued on page 417)

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CFDE APPOINTMENTS



M.E. Bower, Chairman, has announced the following appointments to the Canadian Fund for Dental Education Board of Trustees.

John W. Neilson, D.D.S. —

Vice-Chairman of the Board

Miss Ingrid Kleysteuber —

Secretary to CFDE

Dr. Neilson, Dean of the University of Manitoba Dental School, replaces the late C.E. Peirce as Vice-Chairman. Dr. Neilson was first appointed a Fund Trustee at the CDA Board of Gover-

nors meeting in September 1971. Previously he had served as Chairman of CFDE's Advisory Committee on Fellowship Selection for a three-year period commencing in 1967.

Miss Ingrid Kleysteuber's appointment reflects her expanded duties with CFDE. She has worked for the Fund since June 1967, when she arrived in Canada from Cologne, Germany. She was formerly employed as Secretary to the Scientific Adviser of the Bayer Dental Division.

Quebec dentists prepare for plan

Some 2,000 dentists in Quebec have received all the necessary documentation required to inaugurate the provincial children's dental plan. Included in the materials from the Quebec Health Insurance Board was a Dental Surgeon's Manual, containing essential information on dealings with the Board, the office consolidation of the legislation and regulations respecting the Plan as well as various forms. In addition, approximately 1,000 im- printers were sent to dentists who had not previously received them.

The Quebec Dental Surgeons Association collaborated with the Board in the preparation of an information campaign to assist dental surgeons in the administrative methods related to the program.

A bilingual folder for the public was prepared and approximately 900,000 copies mailed with Quebec family allowances in April.

It is expected that more than 800,000 claims will be submitted by dental surgeons during the year 1974-75 and that the cost of the program, which will benefit 600,000 young Quebecers, will be \$9.5 million.

Slate of officers (continued from page 415)

Nominations

J.F. Reid, Vancouver

W.R. Upton, Vancouver 1975 (1)

D.C. Clee, Toronto 1974 (1)*

L. Bernier, Quebec City 1976 (1)

Research

N.R. Thomas, Edmonton 1975 (2)

A.P. Angelopoulos, Halifax 1975 (2)

R.C. Burgess, Toronto 1974 (2)

H.M. Dick, Edmonton 1975 (2)

C.S.C. Lear, Vancouver 1974 (2)

J.E. Stakiw, Saskatoon (resigned)

P.C. Desautels, Montreal 1974 (1)

A.J. Gwinnett, London (resigned)

Joan deVries, Montreal 1975 (1)

S.M. Borden, Winnipeg 1975 (1)

affiliation with a dental school, at least two members each from the Association of Canadian Faculties of Dentistry and the National Dental Examining Board of Canada, and at least one from the Royal College of Dentists of Canada. In addition, one member must be a provincial registrar. To meet these requirements, one must be elected this year from the NDEB (with or without dental school affiliation) and one from the membership at large (with no dental school affiliation).

On the Health Care Council, three are to be elected — one each from New Brunswick, Nova Scotia and Newfoundland. Two must also be elected to the Information Services Council.

On the Insurance and Investment Council, membership consists of one representative from B.C., one from

the Prairie Provinces, three from Ontario and one each from Quebec and the Maritimes. Three are to be elected from Ontario in this election.

On the Legislation Council one member is to be elected. The Nominations Council has one vacancy to be filled, and nominations will be received from the floor at the Annual Meeting. Membership in this Council should be geographically representative and should include one or more past presidents.

The Research Council membership consists of geographic representation of corporate members in so far as this is feasible. This year, nominees should be from Ontario, Newfoundland, Prince Edward Island, New Brunswick and Saskatchewan. Five are to be elected.

The Education Council is composed of at least four members who are active on the faculty of a Canadian dental school, three who must have no direct

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Federal working document: HEALTH OF CANADIANS

The Government of Canada is questioning whether further massive dollar investments in acute health care can achieve additional increments in the health status of Canadians or whether an entirely different approach is necessary.

May 1, Health Minister Marc Lalonde tabled in the House of Commons a working document entitled, "A New Perspective on the Health of Canadians."

The Minister said, "The purpose of this working paper, as its title suggests, is to unfold a new perspective on the health of Canadians and to thereby stimulate interest and discussion on future health programs for Canada. The paper is not intended to be exhaustive nor does it constitute a definite commitment to any of the proposed courses of action within a specific time frame; many will no doubt quarrel with the amount of emphasis on different aspects and not everyone will agree with all the ideas expressed. I would not want it any other way because it is only through honest disagreement and warm debate that the broader issues of health can be clarified and further progress achieved."

One of the most important ideas expressed in the paper is that of the Health Field Concept. This views health problems according to the relative contributions made by human biology, environment, lifestyle and health care organization. While much of the analytical work remains to be done, there are already indications that joint ventures between the health professions, governments, voluntary associations and the public at large, can be identified with promise of great results.

It is proposed that developing programs be aimed at reducing the health hazard level of high-risk populations as opposed to focusing mainly on the particular illness episode of the individual. The five gravest causes of

death in Canada, calculated by years of potential life lost, are: automobile accidents, coronary artery disease, other accidents, respiratory disease including lung cancer, and suicide.

Of interest to dentists

Dentists studying the paper will find under the chapter on "Major problem areas in the health field" that caries, periodontal disease and malocclusion are listed as constituting one of the greatest public health problems in Canada. The paper says, "A greater number of dental auxiliaries is needed, to relieve dentists of the more routine procedures."

Further, the Minister is quoted in a speech on the paper as stating that, "In the health care field we found conflicting goals were being pursued simultaneously, perhaps with too little recognition that the pursuit of one goal often makes the achievement of another impossible. For example, it is uneconomical to have health care tasks performed by staff with a higher or different level of skill from that needed to do the job. Yet the licensing system for health professionals as well as the fee-for-service system, coupled with the principle that the physician or dentist alone bears responsibility for his patient, encourages the practice of physicians or dentists carrying out tasks which could be done by others, as well or better, and often at a lower cost."

Among the strategies suggested for the future is that of making continued federal support for the training of health professionals conditional upon effective measures to ensure that health manpower is better distributed geographically, among specialties and according to economic levels served.

A copy of "A New Perspective on the Health of Canadians," is available in the CDA headquarters library and from federal government book stores. It should be "must" reading for everyone interested in the future of health care.

In memoriam



John W. Clay LDS, DDS, FICD, LLD, FRCD, MICD

It is with deep regret that the Canadian Dental Association announces the death of John W. Clay, 88, April 30. A man of vision, enthusiasm and diligence, he gave generously and graciously of his time to the improvement of the profession on a local, provincial and national level.

Born in Halifax, Yorkshire, England, Dr. Clay graduated from the University of Pennsylvania in 1905 and from the University of Toronto in 1906. At the age of 21, he set up dental practice in Calgary and went on to recognition as the "dean" of dentistry in Western Canada, practising until 1966.

For sixty years, Dr. Clay served not only the public but the profession in a variety of positions and offices, including the Presidency of the Canadian Dental Association, the Western Canada Dental Society and the Canadian Section of the International College of Dentistry. During his active career, he held staff membership in several hospitals and was lecturer at the Faculty of Dentistry, University of Alberta.

He has been honored by many. He received honorary memberships in the CDA, and the Canadian Society of Oral Surgeons, and an honorary fellowship in the Royal College of Dentists. The University of Alberta awarded him an LLD., Honoris Causa in 1950 and he received the Canadian Centennial Medal in 1967.

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INSIDE THE COVER



Personal, mail and telephone requests receive prompt attention from CDA's trained librarian, Adrian Emerson.

Successful Laval study session held

More than 100 dentists from across Quebec took part in the all-day study session organized by the Division of Extension and the Continuing Education Program in Dentistry at Laval University, April 6. The session, prepared in collaboration with the School of Pharmacy, dealt with "Pharmacotherapy and medicinal interactions in dentistry".

This is a "first" for the Continuing Education Program in Dentistry at Laval. The program is directed by the founder of the Laval School of Dentistry, Dr. Gustave Ratté. Formed three years ago, the School, which proposes to train about 60 dentists every year, is especially interested in training for dentists already in practice. An annual program of continuing education will be announced later in June. Study sessions will be planned around the needs expressed by dentists during the recent government survey of the dental profession in Quebec and will be led by professors from Laval University as well as by specialists from outside the university.

The April 6 session dealt with three topics of current interest: sedatives, analgesics and antibiotics.

Professor Pierre-Paul Leblanc, a specialist in medication kinetics, discussed the use of sedatives to calm patients before dental work is commenced. The effects of analgesics were analyzed by Professor Jacques Dumas, director of the School of Pharmacy. Finally, the subject of antibiotics was discussed by Professor Gilles Barbeau, associate professor in the School of Pharmacy and full professor in the course in the pharmacology of antibiotics and sulfamides.

Dr. Paul Simard, director of the Laval School of Dentistry, praised this first session very highly. He regards this as the beginning of a very important program in continuing education for dentists which will be established with the collaboration of the Order of Quebec Dentists and faculties of dentistry at the universities of Montreal and McGill.

Continuing education in dentistry would not be possible without books — the newest and best from the current listings of the leading textbook publishers, as well as the old and historical which offer great archival and research value. More than 100 members a month request help and assistance from the CDA librarian, Adrian Emerson. Anyone, anywhere in Canada, who hasn't taken advantage of the facilities of the Sydney W. Bradley Memorial Library is missing a great opportunity.

As Miss Emerson says, "Most of our requests come from members in the smaller centres where they have no ready access to a dental school library. What many don't realize is that our library often offers the newest books sooner than the universities. In addition, the CDA is on an exchange basis with most of the world's leading dental journals, national and state journals including those in a number of foreign languages."

A list of the 300 journals received at the library can be obtained by writing or visiting the library. Some journals have been collected for 40 or 50 years and are now invaluable as references. A new catalogue of textbook acquisitions is also available on request.

The most popular service is the

"borrow-by-mail plan." A member dentist anywhere in Canada can request publications or books, which are dispatched promptly, without charge. Return postage is also paid by the CDA. This service is of particular value to members practising in sparsely populated or remote areas.

Total holdings in the library exceed 6,000 scientific and technical books, most of which deal directly with the science and practice of dentistry. There are other collections of medical references including anatomy, physiology, anaesthesia, surgery, biochemistry, public health and even law as it applies to the doctor-patient relationship. A miscellaneous section includes drug therapy, hypnosis, and psychology. A number of French-language texts are purchased each year and this collection is also growing.

As a special service, the librarian will prepare bibliographies and photocopy articles on particular topics. Photocopying is available in the building and is provided free of charge for the first 10 pages, then ten cents for each additional page over ten.

For any of these library services, ask for the Librarian, Canadian Dental Association, 234 St. George Street, Toronto, Ontario M5R 2P2. Telephone (416) 962-3261.

SASKATCHEWAN APPOINTMENT

Dr. A.T. Ball, Saskatoon, has been appointed the first head of the Department of Periodontics in the College of Dentistry at the University of Saskatchewan, effective July 1.

Dr. Ball, who has been serving as acting head of the Department, joined the University in July 1971, when he was appointed an assistant professor of dentistry. He was promoted to an associate professor a year later.

He is a graduate of the University of Saskatchewan with a bachelor of arts degree and of the University of Manitoba with degrees of doctor of dental medicine and master of science in oral pathology and a diploma in periodontics.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on April 30, 1974:

Guaranteed Fund \$10.850;

Fixed Income Fund \$14.064;

Common Stock Fund \$27.753.

Total assets (market value) of the plan were \$17,533,846.18.

The following portfolio purchases and sales occurred during the preceding month: bought, 2,776 units Classified Fund Fixed Income; 2,550 units Classified Fund Conventional Mortgage; \$400,000 Ford Motor Credit Company note; \$425,000 Royal Trust Company GIR; 1,200 shares Bank of Nova Scotia; 2,000 shares Canadian Pacific Investment; 5,000 shares Canadian Superior Oil; \$1,100,000 City Corporation Financial Services; 500 shares Noranda Mines; \$400,000 Ford Motor Company note. Sold, \$455,000 Royal Trust GIR; \$600,000 Dow Chemical Company note; \$200,000 General Foods note; \$500,000 Ford Motor Credit Company note; \$500,000 General Motors Acceptance Corp. note.

For further information write to CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto, Ont. M5R 2P1.

DENTISTS HONOR A.J. COUGHLAN

The Saint John Dental Society honored A.J. Coughlan at a dinner in March, during which he received an engraved silver tray in recognition of his many years of dedicated service to dentistry. Members of the society as well as guests from Fredericton and St. Stephen were present to pay tribute and society president, J. Thompson, read letters of congratulations from the officers of the Canadian Dental Association.

Dr. Coughlan graduated from Tufts Dental School in Boston in 1918 and after service with the Canadian Armed Forces started practice in Saint John in 1920.

He is a past president of the local Society, and the New Brunswick Dental Society as well as the national association. St. Joseph's College and Dalhousie University have both presented him with honorary doctorates.

Deaths

Bennett, M. 83. Carman, Man. University of Manitoba, 1917. 14-4-74. Survived by Charles, Bernard and Robert (sons).

Brownlee, Basil Ernest. 87. Winnipeg. Royal College of Dental Surgeons of Ontario, 1907. 25-4-74.

Clay, John William. 88. Calgary. Royal College of Dental Surgeons of Ontario, 1906. 30-4-74. Past president (1926-27) and honorary member of CDA.

Gornitsky, Israel. 70. Montreal. McGill University, 1927. April 1974.

Harnish, Weldon E. 60. Halifax. Dalhousie University, 1938. 16-4-74.

Hurton, Roderick, George H. 83. Glenboro, Man. Northwestern University, 1917. 7-3-74. Survived by Dr. J.P. Hurton (son).

Kanchier, Michael, 73. Winnipeg. Loyola University, 1931. 29-4-74. Survived by Mary (wife); Mrs. Joan Harris, Mrs. Mary Anne Wall and Carole (daughters).

Lande, Nathan. 75. Montreal. McGill University, 1919. April 1974.

Langille, Ralph Meredith. 75. Truro, N.S. Dalhousie University, 1924. 24-4-74. Survived by Jean (wife) and Donald (son).

MacKenzie, Ian Grant. 67. Vancouver. University of Minnesota, 1938. Survived by his wife and family.

Mills, John Thomas. 49. Brandon, Man. University of Toronto, 1953. 12-4-74. Survived by Zella (wife); Brent (son); Pamela and Valerie (daughters); and Mrs. Muriel Mills (mother).

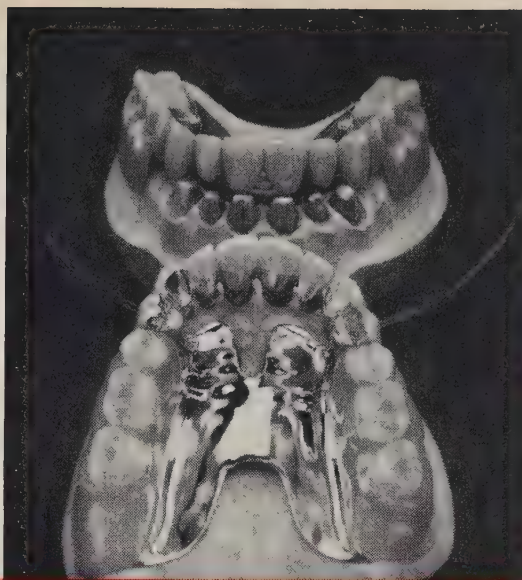
Robert, Louis Philippe. 64. Montreal. University of Montreal, 1936. 16-4-74. Survived by Madeleine (wife); Francine, Nicole and Christiane (daughters).

Sinclair, William A. 63. St. Stephen, N.B. Dalhousie University, 1933. 1-4-74. Survived by Ann (wife).

Stroud, Milton Carl. 43. Calgary. University of Alberta, 1955. 12-4-74. Survived by Shirley (wife); Richard (son) and Pamela and Patricia (daughters).

Veitch, Ernest Claude. 87. Toronto. Royal College of Dental Surgeons of Ontario, 1909. 3-5-74. Survived by Thora Maud (wife); Dr. E. Bruce Veitch (son); Mrs. Elfa Davidson, Mrs. Dorothy Gunnell and Mrs. Muriel Grieve (daughters).

Stewart, Harry Raymond. 80. Winnipeg. Royal College of Dental Surgeons of Ontario, 1924. 21-4-74. Survived by Beatrice (wife); Wallace and Bruce (sons).



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250 Lawrence Avenue West

The Posen & Furie Dental Laboratories Limited
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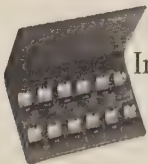
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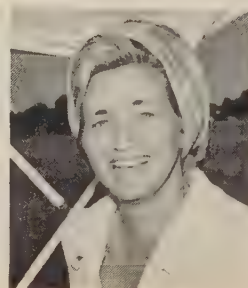
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L'ODQ EST BIEN RESOLU A GAGNER LA PARTIE



Adam LaBrosse s'entretient avec Jacques Boulanger au cours d'une émission "Bou-Bou" à Radio-Canada.

Le mot d'ordre est lancé: A bas les caries, mort au tartre et vive les dents propres et saines! C'est connu, depuis des années, les Québécois détiennent un championnat peu recommandable, celui de la carie dentaire. De l'avis des spécialistes en la matière, le peuple québécois a le plus haut taux de caries au monde et se trouve aussi le peuple le plus édenté.

De nombreux efforts louables ont été tentés déjà par divers organismes dentaires, mais enfin, on insitait par trop sur l'information pour presque en oublier le phénomène motivation. Voilà que l'ODQ renverse la situation. Avec l'aide de ses conseillers en publicité, le Comité des communications, dirigé par le Dr Claude Chicoine, met sur pieds une campagne d'abord axé sur la motivation et ensuite appuyée par l'information. On ne saurait inculquer le bon usage de la brosse à dents et de la soie dentaire si le public n'est d'abord et avant tout motivé. Le thème de la campagne "Une dent propre ne carie pas" axé en très forte partie chez la population estudiantine pour ensuite se répercuter chez les adultes, rejoint

l'objectif fixé: Avoir des dents propres et saines.

L'ODQ lance la campagne en s'associant les divers media d'information. L'un d'eux est d'ailleurs quelque peu inusité. Il s'agit du Théâtre d'Art du Québec dont le directeur, Luiz Saraïva, a bien voulu prêter son concours à l'ODQ.

A cet effet, Saraïva, mieux connu des enfants sous le pseudonyme de Monsieur Bonjour, présente avec la marionnette Adam LaBrosse un petit sketch amusant basé sur la prévention dentaire dans les 300 écoles qu'il visitera. Cette tournée a également pour but de lancer le concours de dessins-textes auquel plus de 100,000 enfants pourront participer. Ils prépareront leurs dessins-textes en répondant à cinq questions sur la prévention dentaire. Il va de soi qu'en effectuant eux-mêmes les recherches, les enfants prendront davantage conscience de l'importance d'une saine dentition.

La marionnette Adam LaBrosse joue un grand rôle dans la campagne. Non seulement effectue-t-elle la tournée avec le Théâtre du Québec mais peut-

on la voir aussi sur les écrans de toutes les stations de télévision anglaises et françaises du Québec.

Adam LaBrosse signe le message "Une dent propre ne carie pas" sur les panneaux de métro, (Montréal), panneaux extérieurs et affiches d'autobus que l'on peut voir dans diverses régions du Québec. De plus, une quantité industrielle de décalcomanies sera remise aux petits québécois pour qu'ils les collent sur leurs effets afin de bien se rappeler la phrase-clé de la campagne. Adam se produira d'ailleurs dans différentes émissions de télévision enfantines. Au programme, il y a même une édition spéciale de Coccinelle, la section réservée aux enfants dans le Dimanche-Matin, dont le tirage s'élève à 350,000 copies.

Comme on le voit, le thème de la campagne est propagé de diverses façons, toutes aussi originales les unes que les autres. D'ailleurs, d'autres projets sont présentement en voie de réalisation pour combattre la carie. C'est un adversaire de taille et l'ODQ entend bien gagner la partie.

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Wernet's Adhesive Powder and Cream was selected and is recommended by dentists 2 to 1 over the next leading product.

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SUCCES DE LA PREMIERE JOURNEE D'ETUDE A LAVAL

Samedi 6 avril, plus de 100 dentistes venant de tout le Québec ont assisté à la journée d'étude organisée par l'Extension de l'enseignement et le Service de l'enseignement dentaire permanent de l'Université Laval. Cette journée, préparée en collaboration avec l'Ecole de pharmacie, portait sur "La pharmacothérapie et les interactions médicamenteuses en médecine dentaire".

C'est une "première" pour le Service de l'enseignement dentaire permanent de la jeune Ecole de médecine dentaire de l'Université Laval; ce service est d'ailleurs dirigé par le fondateur de l'Ecole, le Dr Gustave Ratté. Créée depuis seulement trois ans, l'Ecole de médecine dentaire qui d'ici quelques années se propose de former une soixantaine de dentistes par an, veut s'intéresser à la formation permanente des dentistes en exercice. Un programme annuel d'éducation permanente comportant cinq ou six journées devrait être annoncé en juin. Les sujets retenus tiendront compte des besoins exprimés par la profession lors d'une récente enquête gouvernementale menée auprès des dentistes du Québec, et ils seront présentés tant par des professeurs de l'Ecole de

médecine dentaire de Laval que par des conférenciers invités.

La première journée portait sur trois sujets d'actualité: les sédatifs et psychotropes, les analgésiques et les antibiotiques.

Le directeur de l'Ecole de pharmacie, M. Pierre-Paul Leblanc, un spécialiste de la cinétique des médicaments a présenté le sujet des sédatifs et psychotropes qui sont utilisés pour calmer certains patients avant l'intervention. Les effets de l'utilisation des analgésiques ont été analysés par M. Jacques Dumas, directeur du programme de pharmacie. Enfin, l'usage des antibiotiques en médecine dentaire était étudié par M. Gilles Barbeau, professeur adjoint à l'Ecole de pharmacie, titulaire de cours sur la pharmacologie des antibiotiques et des sulfamidés.

Selon le docteur Paul Simard, directeur de l'Ecole de médecine dentaire, les activités dont il est fait mention plus haut ne sont que le début d'un vaste programme d'enseignement permanent qui sera bientôt réalisé en collaboration avec l'Ordre des dentistes et les facultés dentaires des universités de Montréal et McGill.

Les dentistes du Québec sont dans l'état de préparation

La Régie de l'assurance-maladie du Québec a récemment effectué les derniers préparatifs en vue de l'entrée en vigueur du programme de services dentaires gratuits pour les enfants âgés de moins de huit ans.

Les quelque 2,000 professionnels de la santé concernés ont reçu plusieurs documents parmi lesquels, le manuel des chirurgiens dentistes qui contient tous les renseignements indispensables au professionnel dans ses rapports avec la Régie, la Codification administrative des lois et règlements de l'assurance-maladie et différentes formules. De plus, environ 1,000 imprimantes ont été expédiées aux dentistes qui n'en avaient pas préalablement obtenu.

Par ailleurs, l'Association des chirurgiens dentistes du Québec a collaboré avec la Régie dans l'élaboration d'une campagne d'information visant à renseigner les chirurgiens dentistes sur les mécanismes d'application du programme de services dentaires.

Au chapitre de l'information, on a également publié un dépliant bilingue destiné à sensibiliser les Québécois au nouveau programme. Grâce à la collaboration de la Régie des rentes, un envoi massif de ce dépliant a été fait en avril aux quelque 900,000 bénéficiaires d'allocations familiales du Québec.

Pour l'année 1974-75, on a évalué à plus de 800,000 le nombre de demandes de paiement que soumettront les chirurgiens dentistes. Quant au coût du programme, qui bénéficiera à plus de 600,000 jeunes Québécois, il a été estimé à 9.5 millions.

Régime d'épargne retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 avril 1974:

Fonds avec garantie \$10.850;

Fonds à revenu fixe \$14.064;

Fonds d'actions ordinaires

\$27.753.

L'avoir total (valeur marchande) du régime se montait à \$17,533,846.18.

Au cours du mois précédent, les transactions ont été les suivantes: achat, 2,776 Classified Fund Fixed Income; 2,550 units Classified Fund Conventional Mortgage; \$400,000 Ford Motor Credit Company note; \$425,000 Royal Trust Company GIR;

1,200 actions Bank of Nova Scotia; 2,000 actions Canadian Pacific Investment; 5,000 actions Canadian Superior Oil; \$1,100,000 City Corporation Financial Services; 500 actions Noranda Mines; \$400,000 Ford Motor Company note. Vente, \$455,000 Royal Trust GIR; \$600,000 Dow Chemical Company note; \$200,000 General Foods note; \$500,000 Ford Motor Credit Company note; \$500,000 General Motors Acceptance Corp. note.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St., Toronto, Ont. M5R 2P1.

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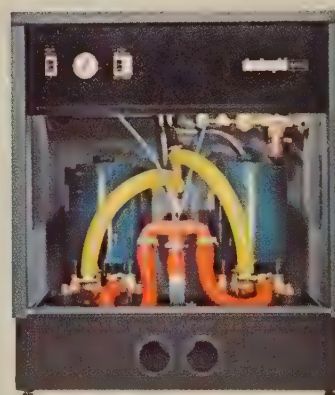
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IMPLICATIONS DE LA LOI RELATIVE AUX ENQUÊTES SUR LES COALITIONS

Les amendements importants apportés, en novembre, à la loi relative aux enquêtes sur les coalitions, concernant, entre autres, la question de la publication du guide des honoraires des services dentaires, a provoqué l'intervention immédiate du docteur W.G. McIntosh, directeur général de l'ADC. Il se mit en relations, sur le champ, avec Monsieur M.G. Gascoigne, sous-directeur du ministère de la Consommation et des Corporations, afin d'obtenir des éclaircissements sur les questions mentionnées dans les passages suivants, extraits des documents explicatifs.

“Les restrictions imposées par la loi à l'égard des coalitions, des fusions et des monopoles, dont les activités sont maintenant principalement restreintes à la production et au troc d'articles ou de marchandises, seront étendues à tous les services et à toutes les industries de services.”

“Il en résulte que toutes les activités économiques seront assujetties à cette loi, sauf celles qui en sont exemptées par la loi elle-même, ou sous l'effet d'autres lois.”

En vertu de ce projet de loi, les définitions et les interdictions contenues dans la loi d'enquête relative aux enquêtes sur les coalitions s'appliquent aussi aux services.”

“Les professions et les institutions financières, un éventail assez vaste de services de communications, ainsi que tous les services de loisirs, y compris les sports professionnels, seront aussi affectés, dans la mesure où ils n'auront pas été soumis à d'autres types de régie.

“Les activités syndicales de bonne foi ont toujours été exemptées des dispositions de la loi relative aux enquêtes sur les coalitions et continueraient de l'être. Les activités des services déjà soumises à des lois de

réglementation seraient aussi exemptées. Les services, comme le téléphone et autres formes de communications, l'énergie électrique, ainsi que les professions, continueraient à être exemptés des dispositions de la loi, dans la mesure où leurs activités soient déjà réglementées et expressément autorisées par une loi. Cette immunité n'est pas mentionnée explicitement dans le projet de loi, mais elle ressort dans l'interprétation juridique. Plusieurs professions jouissent de pouvoirs très étendus, leur accordant le droit de se gouverner elles-mêmes, en vertu de statuts provinciaux, plus particulièrement sur des questions relevant des normes professionnelles, comme les conditions d'admissibilité. Les amendements proposés n'affecteraient pas ces arrangements. Toutefois, les activités commerciales, comme celles qui consistent à fixer le montant des cotisations, ne sont pas soumises aux lois provinciales. Dans des cas semblables, ces activités devraient être conformes aux dispositions de la loi d'enquête Combines, sauf quand elle sont régies par des lois provinciales valides.”

Dans son Rapport intérimaire, le Conseil économique du Canada s'est préoccupé, dans une certaine mesure, de la question des groupements professionnels, en relation avec la politique de la concurrence. On y exprime clairement l'opinion que la fixation du montant des contributions ainsi que les autres formes d'activités à tendance commerciale pratiquées par les professions devraient être soumises à un système de contrôle approprié. Trois systèmes conviendraient: la politique de la concurrence, la convention collective, quand il existe une autorité appropriée avec laquelle il est possible de traiter, ou finalement la réglementation directe. Tout en permettant le libre choix, parmi les trois

systèmes, appliqués soit séparément ou en combinaison, le Conseil accorde la première place à la politique de la concurrence. A ce sujet, le Conseil a déclaré:

“Règle générale, les arrangements en vue de déterminer la rémunération d'un membre d'une profession libérale, à son compte, et ceux d'autres groupes devraient être soumis aux exigences de la politique de concurrence. Toutefois, quand un groupe préfère choisir le système de la convention collective, ou les arrangements d'une réglementation publique, et que ces arrangements répondent aux exigences de la situation pour constituer un système approprié de contrôle, il serait logique d'accorder une exemption de la politique de concurrence, en ce qui concerne les questions spécifiquement couvertes par les arrangements alternatifs.”

Monsieur Gascoigne a clarifié la question importante du guide de cotisation publié par les associations dentaires provinciales. Il a déclaré que le seul problème possible sur ce point serait provoqué par une association professionnelle outrepassant les pouvoirs qui lui sont consentis, en vertu de statuts provinciaux et qui deviendrait vulnérable, de ce fait, à l'interdiction relative aux arrangements qui ont pour but de diminuer indûment la concurrence.

En l'absence de toute autorité statutaire, il croit ne pouvoir déterminer à l'avance quelles dispositions pourraient découler des recommandations adoptées par les associations, et appliquées par des membres individuels. En certaines circonstances, il pourrait être démontré que cette pratique constitue effectivement un arrangement ou une conspiration, selon l'acception que les tribunaux accordent à ces termes.

STATUS OF CONTINUING EDUCATION

Diane Charter, Special Features Editor

Professionals in every facet of the health care field today face an enormous challenge in keeping pace with change in their chosen specialty. Dentists are certainly no exception.

In recent years technological advancements in the field of dentistry have resulted in a steady influx of new equipment and techniques, while ongoing research has introduced a seemingly endless supply of new data. At the same time, changing social needs and attitudes are beginning to challenge the traditional role of the dentist.

This phenomenon of change has forced health professionals to focus special interest on the concept of continuing education. In the field of dentistry this interest is becoming ever more apparent as increasing numbers of individual dentists across the country take advantage of all available opportunities to upgrade their knowledge and skills.

But what about organized dentistry? What is being done at the provincial level to encourage continuing dental education? To find out, the CDA Journal contacted the directors of each provincial association. Here is what they told us:

BRITISH COLUMBIA — The Council of the College of Dental Surgeons of British Columbia has approved revisions to the Dentistry Act and these have now been submitted to the provincial government. The revisions contain provisions for the College to have the authority to require licensed dental personnel to meet continuing education requirements as a condition of licensing. No specific system is described in the revised Act; it simply would give Council the power to initiate a system. In the area of auxiliary personnel the College is making progress with regard to de-

veloping training programs and programs designed to upgrade the skills and knowledge of auxiliaries.

ALBERTA — The Dental Association Act was amended in May, 1973, to provide for a requirement of continuing education as a condition for relicensure. The amendment requires that every member of the Alberta Dental Association "shall within five years from January 1, 1974, complete continuing education activities which give him not less than 500 credit points." A similar requirement holds true for every five year period thereafter. Failure to meet these standards results in a member being suspended from the rolls of the association until the requirements are met. Credit points are assigned to various activities which have been approved by the Board as acceptable continuing education activities. These include refresher courses, study clubs, conventions, symposia and the CDA tape cassette program. A by-law has been approved by the Board and now awaits approval by the Lieutenant Governor-in-Council. Certified specialists in Alberta have had a continuing education requirement since January 1, 1973. Although the Dental Association Act has been amended to provide for the control of dental assistants, the necessary by-laws have not yet been approved by the Lieutenant Governor-in-Council as required. This is expected in the near future, but no consideration has been given to requiring continuing education for assistants in the near future. To date there is no legislation in the province that provides any authority for dental hygienists, either as a part of the Association By-laws or in an Act of their own. Thus there is no requirement for continuing education for hygienists.

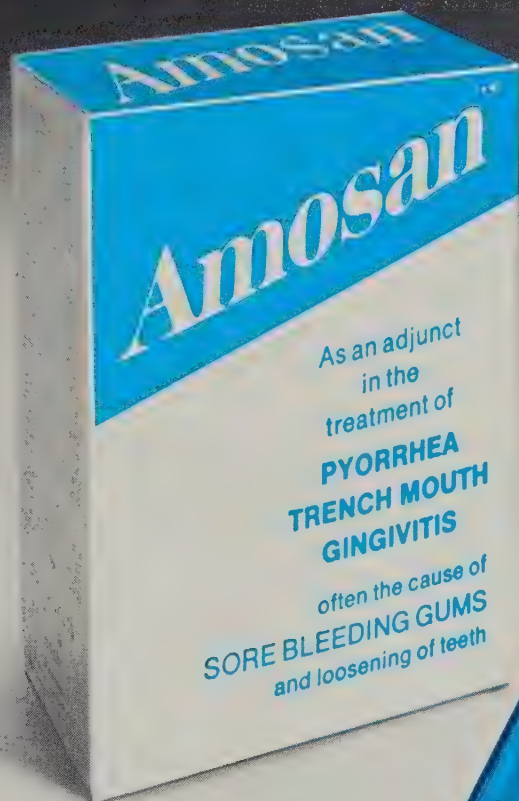
SASKATCHEWAN — Although continuing education is not mandatory here, it is being strongly encouraged by means of an experimental program developed by the College of Dental Surgeons of Saskatchewan. The program, launched January 1, 1974, urges all dentists in the province to avail themselves of a wide range of continuing education courses for which points are awarded. The College recommends that the minimum number of points, under its credit system, to be accumulated in order to remain currently informed would be an average of 40 per year. To date, the bylaws in Saskatchewan have not been changed but they will be if it is decided to make continuing education mandatory.

MANITOBA — Continuing education became a mandatory condition for relicensing in February, 1973. Under the credit system developed by the Manitoba Dental Association, dentists in the province are required to accumulate 250 points every three years.

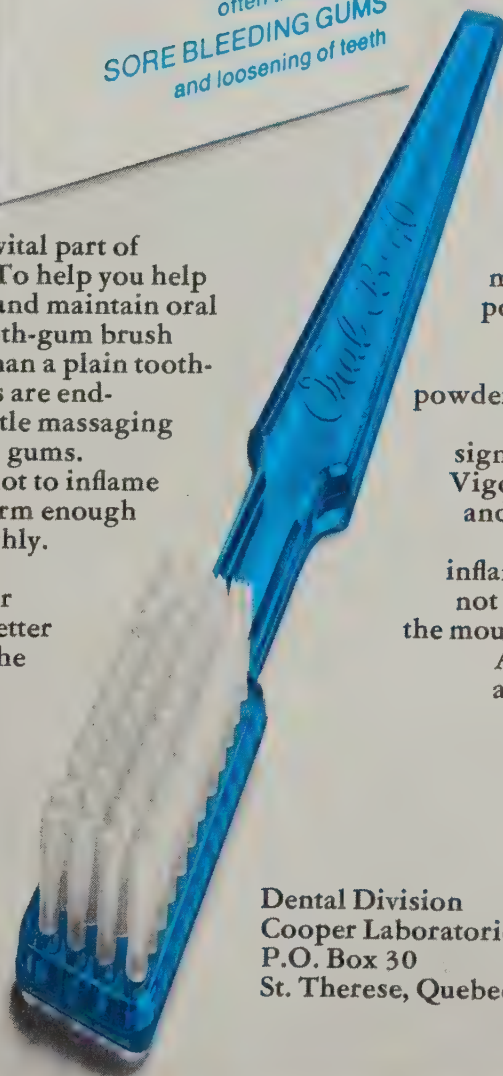
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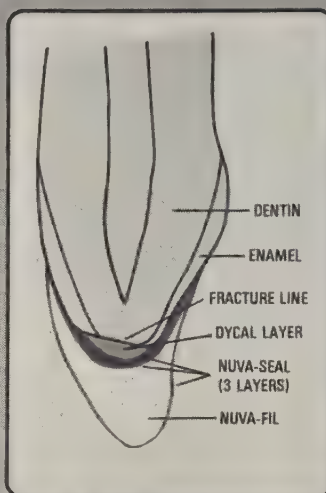
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Alberta and Manitoba allow continuing education credits to the CDA cassette program through Medifacts.

Auxiliary personnel are not covered under the bylaw. At the present time no further changes to the bylaw governing continuing education are being considered. However, if the Committee feels it necessary, the bylaw will be reviewed February 28, 1976, following the first three year period. This year, for the first time, the Manitoba Dental Association will offer some of its own continuing education courses at the Faculty of Dentistry.

ONTARIO — Continuing education is not compulsory for either dentists or dental auxiliaries in Ontario at the present time. However, there is a very broad spectrum of educational courses available through the Ontario Dental Association, its component societies and the various study clubs.

QUEBEC — Continuing education is not compulsory for either dentists or auxiliary personnel in Quebec. The Order of Dentists of Quebec has discontinued the compiling of credit hours accumulated for continuing education courses, but it is now in the midst of revising its by-laws.

NEW BRUNSWICK — At the present time, the New Brunswick Dental Society is not prepared to make continuing education compulsory for its members. However, the Society is trying to find a working system wherein dentists who participate in continuing education programs on a voluntary basis receive formal recognition. They visualize a program which will award a certificate to members who complete

a designated amount of courses within a specified time period. Emphasis would be on the voluntary aspect of the program. Although the Dental Act is now being revised in New Brunswick, the Society sees no value in making continuous education mandatory before a program involving points or credits has been tried and tested. Dentists in this province participate in various courses sponsored by Dalhousie University in Halifax and many French-speaking dentists attend courses at the University of Montreal. Many also use the CDA tape cassette program as a tool for continuing education.

NOVA SCOTIA — Although continuing education is not mandatory for dentists or auxiliary personnel in Nova Scotia, the provincial Association is actively exploring the possibility of enacting some regulations before the end of the year. Dalhousie University is presenting a fine continuing education program for dentists and it is being well supported by the profession.

PRINCE EDWARD ISLAND — No changes have been made in the bylaws relating to continuing education in Prince Edward Island. However, the Executive of the Dental Association supports the concept in principle and is watching developments in other provinces with keen interest. The Association does, from time to time, sponsor continuing education courses but no points are awarded for attendance.

NEWFOUNDLAND — Continuing education is not compulsory nor are points awarded for completion of specific courses. The bylaws regarding continuing education have had no recent changes. However, the provincial Dental Association is presently giving attention to this matter and it is expected that changes will be made in the not too distant future. At present, the only form of continuing education that members of Newfoundland Dental Association participate in to any great degree is the CDA tape cassette program.

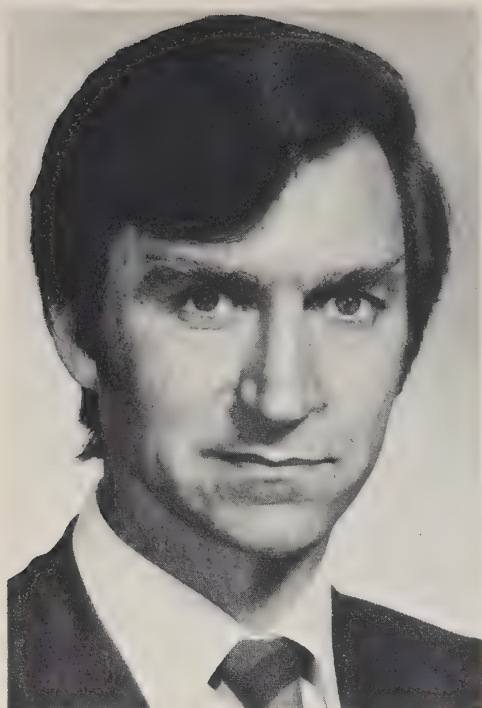
Executive Affairs

(Continued from page 413)

This spring, both the Manitoba and Alberta Boards have passed resolutions supporting the move to Ottawa and urging it to be done as soon as possible. In addition, they have indicated that they intend to consider raising their financial support to the CDA as soon as the building is constructed.

Finally, the working document, "A New Perspective on the Health of Canadians," recently released by the Minister of National Health and Welfare, Marc Lalonde, contains statements indicating that, through conditional grants to the provinces, the federal government intends to have much more to say about the education and licensing of health workers. The report also states that it is considering "joint ventures between health professions, governments, voluntary associations and the public at large," which will develop a new "health field concept." In simple terms, if it is now the federal government's intention to influence provincial health planning through its granting mechanisms, then Ottawa, not provincial capitals, is the place where the dental profession must make its voice heard daily.

As president, I call for the unanimous support of members in every province so that your national voice may be heard in Ottawa where the future policies for delivery of dental care are being determined.



Throughout life: **THE NEED FOR CONTINUING EDUCATION**

**George S. Beagrie, D.D.S.(Edin.), F.D.S.R.C.S.(Edin.),
F.R.C.D.(C.)**

**Director, Division of Postgraduate Dental Education and
Chairman, Division of Clinical Sciences, Faculty of Den-
tistry, University of Toronto**

It is right and proper that the education of a profession be under the constant scrutiny of its members and much effort has been made to keep dental education abreast with developments in other health fields. Over recent years the subject of continuing education in dentistry has been increasingly apparent. Interest has multiplied considerably and the more so because politicians are now placing pressure on the health practitioners to maintain their standards. Thus, in 1964, we find The (Hall) Royal Commission on Health Services recommending: "that to help ensure that physicians in practice maintain their level of competence, medical schools inaugurate or expand their programme of continuing medical education. . . ."¹ The same recommendation was made with respect to dentists.

At another level of government the Report of the Committee on the Healing Arts in Ontario recommended in 1970 "that a program for ensuring continuing competence be implemented for physicians and that periodically, perhaps every five years, every physician in Ontario be required to present to the College of Physicians and Surgeons of Ontario a certificate from a medical school in Ontario stating that he has maintained a satisfactory level of competence in the areas of medicine in which he ordinarily practises."² Similar recommendations were made for dentists.

The profession has always recognized the need for continuing professional education throughout life. Indeed such constitutes one of 10 objectives in the Report on Dental Education of the World Health Organization.³ Owing to the different backgrounds of individuals who seek continuing education it is difficult in general terms to delineate precisely the level of education required.

One major factor which emerges, however, is that only from a suitable undergraduate training can effective continu-

ing education emerge. The corollary is also true and the two are therefore inexorably united.

The undergraduate curriculum is now under scrutiny and change in Canada,⁴ and other parts of the world.⁵⁻⁷ The constant theme expressed by most of these articles is for undergraduate courses to be more educational in content so that a dentist will graduate an educated man. The medium of continuing education will then be expected to provide the further training necessary to meet individual needs. Such an approach, if implemented, would then release time within the crowded undergraduate curriculum and would facilitate the individualizing of undergraduate programs.

Development of Departments of Continuing Education

Reference has already been made to political pressures for continuing education. As a result, a few years ago, several states in the USA enacted legislation demanding continuing education as a requirement for relicensure of dentists.⁸ This year, the provinces of Manitoba and Alberta have also made these demands and other provinces are considering similar action. Need for facilities to meet these growing pressures will be urgently required.

If this is coupled with the idea expressed that continuing education is the instrument of change within the undergraduate curriculum and the means of updating graduates "in toto," there will have to be a major undertaking by governments and universities to form and staff departments of continuing education across the land. It would seem timely for dental schools to exert pressure now to develop continuing education departments as major growth points within their universities.

The concept of dental education as a preparation for life is being replaced by that in which education is co-extensive



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with work. When these facts are analyzed in association with the information explosion of our modern scientific age, need is even more telescoped.

Another interesting fact is that at the same time as society, politicians and educators are discussing and rationalizing their approaches to professional education, youth is in revolt. More specifically that part of youth which is the recipient of our educational programs. The main reason for the "revolt" would seem to be due to isolating the students' education from the real life of society.

The Director-General of UNESCO, at a recent meeting on adult education (Tokyo 1972) had this to say, "Today, professionals in formal education are wondering whether, as some have suspected for a long time, adult education may not, after all, offer certain solutions to the problems that they are unable to solve in the framework of school and university education. Thus it is that the crisis in education has brought to the fore a type of education hitherto considered parallel and peripheral which suddenly appears as the focal point. . . ."⁹

Task Force on Continuing Education

The Canadian Dental Association, aware of the necessity to examine continuing dental education, arranged and developed a conference on the subject during September 1972. Many proposals were presented at that conference to promote the subject within Canada. The Education Committee of the Canadian Dental Association, at their meeting in April 1973, formed a task force to follow up and make recommendations regarding continuing education for Canada. Part of the task force's work has been to collate information from the various societies and develop a questionnaire to indicate "need" as seen through a random sample of 10 per cent of the membership. The complete results of the questionnaire have not yet been analyzed but some trends are apparent, viz., almost all dentists replying considered that continuing education was necessary to practise good dentistry. Another question with an interesting result referred to continuing education being made mandatory to maintain licence to practise; 69 per cent answered "yes" and 31 per cent said "no".

Responsibility for Continuing Education

Continuing dental education is considered the manner by which a standard of care for the public is maintained to a required level. In some instances it is necessary to implement this by compulsion.

The Canadian Dental Association Conference established that no longer can continuing education be designated a "stepchild" of dental education.¹⁰ Need was established for national guidelines to be set up to ensure that national standards of continuing education be formulated.

Professional associations at provincial and national level have to accept the responsibility for accrediting and arranging for educational courses. The role of the associations in this direction will greatly expand in the future. It is hoped that learning resource centres will develop in conjunction with all interested bodies.

The individual, however, must remain responsible for the allocation of time and energy to meet his or her obligations to continuing education.

Role of Governments

Governments must also concern themselves with the financial obligations to provide support, both indirect and direct. In an indirect sense, Government must give tax incentives to participants of continuing education courses. Direct moves, however, will be required to finance centres through which an update of knowledge can be made effective. Such action is well illustrated through the present system adopted in the United Kingdom in which Regional Postgraduate Centres have been organized for the express purpose of this form of education of health science personnel.¹¹

Although the dental school environment is still considered by many to serve as the major centre for courses in continuing education, there is much to be gained from a departure from this philosophy. The teaching hospital setting, with the environment which it engenders, and the interaction with other health science professionals which it produces are all beneficial to stimulating the individual dentist to achieve his optimum. Indeed it would seem to present the best in continuing education — viz., stimulus without compulsion, reward in a spiritual sense rather than in materialism. The profession in several countries of the world is using the community hospital as a continuing education facility since it recognizes that, by comparison with hospitals, dental schools are sparsely distributed across the land. In addition, the use of the community hospital gives more impetus to serving the needs of the public in that community and therefore provides a better service.

Role of the Canadian Dental Association

The national organization has accepted, in conjunction with provincial associations, that their major role should be the provision of sophisticated programs of continuing education such as audio and video cassettes. In this regard it is interesting to note that the audio cassette program now running into its third year has been accepted as fulfilling some of the necessary requirements of continuing education in the provinces of Manitoba and Alberta. In both of these provinces continuing dental education is a requirement of all dentists for the renewal of licence. In Manitoba 250 points of continuing education are required over a period of three years. Points are awarded for refresher courses, symposia, study clubs and conventions. The Canadian Dental Association cassette program is credited with providing 12 per cent of all the points needed.

Alberta has similar legislation. In this province 500 points have to be procured within a five-year period, and here 15 per cent of the points can be earned through the Canadian Dental Association cassette program. Other provinces are considering similar legislation and thus the provision of facilities for these large numbers of dentists has already become a major undertaking.

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One essential role of the national association will be the development of guidelines for continuing education and the creation of a format for major programs. It is probable these will have to be accredited. The formation of a uniform credit points system for the various continuing educational activities would seem appropriate in order to give help to the corporate bodies and provide reasonable uniformity. The national body should become responsible for the provision of lists of personnel available and suitable for given programs, and co-ordination of courses and content should also fall under their aegis.

A recent publication¹² indicates a need for some association to be responsible for the provision of courses of instruction which would allow upward mobility of personnel into different categories of the work pattern. As an example, the dental assistant should be able to expand her duties to become a dental hygienist, while the dental hygienist might become a New Zealand or Saskatchewan dental nurse, with the necessary courses of instruction. Such courses would be available for this purpose. The development of guidelines to enable this mobility to take place would seem to be the role of the national association.

In conclusion, it must be assumed that the national association will act as the liaison body between the profession and government and work for the development of funds for the promotion of experimental models for professional continuing education, so that the future needs of this all important aspect of dental education can be permitted to grow with vigor.

Dr. Beagrie is director, Division of Postgraduate Dental Education; chairman, Division of Clinical Sciences, Faculty of Dentistry, University of Toronto; and Chairman, Task Force on Continuing Education.

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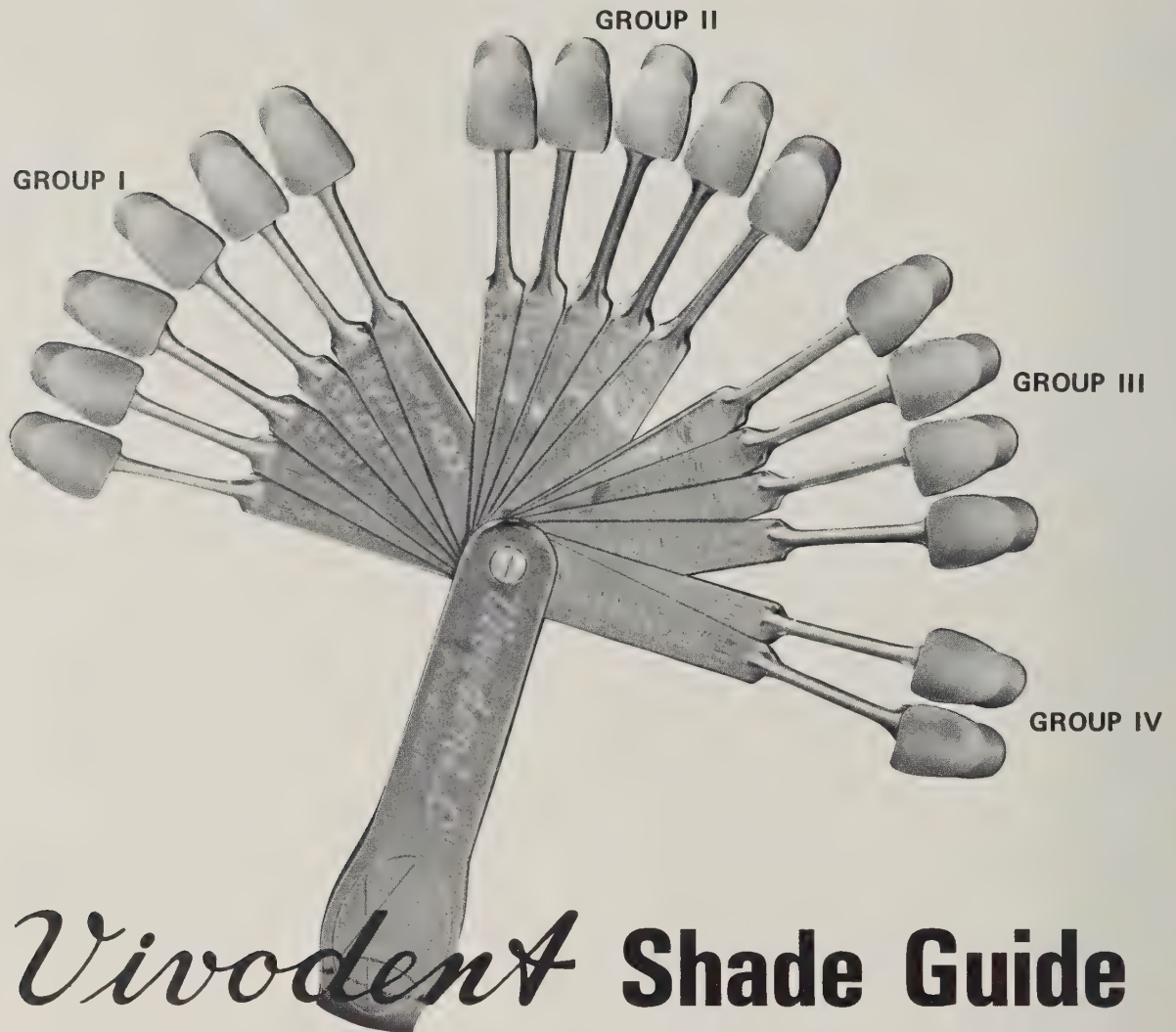
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Supervision recognized by provincial Association	"Expanded" duties proposed or permitted	Recognized Classifications	
CDA guidelines	Assts: rubber cup, prophyl., study models, x-rays & topical fluoride. Hygienists: matrix retainers, insert restor., finish and polish, rubber dam applic., expos. x-rays (basically as taught at Dalhousie D.H. School).	Asst., Hygienist, Techn.	NFLD.
CDA guidelines	Expanded-duty Hygienist places plastic filling material.	Asst., Hygienist, Techn.	N.S.
CDA guidelines	Rubber dam, prophyl., impressions, x-rays, patient educ., flossing, fluorides, restorative field, deep scaling curettage	Asst., Hygienist, expanded-duty Hygienist, mechanics	P.E.I.
CDA guidelines	Not yet legislated	Hygienist, Techn. only covered in Dental Act	N.B.
CDA guidelines, of formally trained & College appr. duties	Assts: rub. cup polish, applic. anti-cariogenic agents, rubber dam, place fissure sealants, intra-oral education Hygs: apply temp. sedatives, take impressions, simple lab, place & remove matrix bands, cement. & remove ortho bands, place & finish amalgam restors., place & finish silicate & plstc. restors., cement. temp. crowns, place temp. fillings, rub. dam, sutures & dress., cavity liners when pulp unexposed.	Asst., Hygienist, Techn., Denture Therapist	ONT.
Under supervision and respons. of DDS	Curriculum guidelines recommended for hygienists and as post-graduate training for assistants: expos. & devel. radiographs, impressions, remove sutures & dress., topical anaesth., prelim. oral exam., history & chart, oral hygiene inst., topical anti-cariogenic agents, polishing, local anaesth. by infiltration, place & remov. rubber dams, matrix bands, temp. restor.; place, carve, finish restor. in amalgam; place and finish acrylic, composite and silicate restor.; remove excess cement, place & remove ortho bands.	Asst., Hygienist, Techn.	QUE.
CDA guidelines	Trained Assts. can do rubber cup prophyl., fluorides, x-rays, study models. Trained Hygienists can place plastic restor. in prepared cavities.	Asst., expanded-duty Asst., Hygienist	MAN.
CDA guidelines (Govt. does NOT accept this policy)	Assts. can do anything under superv. of dentist incl. intra-oral such as rubber cup, x-rays, prelim. impressns. Nurses can inject locals, extract & fill, place space maintainers and stainless steel crowns.	Asst., Hygienist, Techn., in future, Dental Nurse	SASK.
Hygienists: supervision As trained Assts.: CDA guidelines		Asst., Hygienist, Techn.	ALTA.
Hygs. with trad. duties: general supervsn.; for all others CDA guidelines	D/A No.1: study model imp., rubber cup polishing & top. fluor., radiographs, rubber dam placemt. & removal, ortho duties as trained, typing, removing arch wires, cementg. bands & brckts., remove excess cement. D/A & D/H No. 2: place & remove matrices & wedges, place, condense, carve & polish amalgam & plastic restors., place retroa, cord & impress. for c & b procedures.	Asst., Reg. Asst. (type 1=trad.); Reg. Asst. (type 2=expand. duty); Reg. D. Hyg. (type 1), Reg. D. Hyg. (type 2)	B.C.

Dental care in Alberta:

PUBLIC ATTITUDES, UTILIZATION PATTERNS AND SOCIO-ECONOMIC DETERMINANTS

A.A. Bene, DDS, DDPH
W.E. Novasky, MA
S.G. Geldart, DDS, MPH
Edmonton

This attitude survey of 1,363 Alberta residents revealed a noticeable discrepancy between belief and practice regarding semi-annual dental check-ups. Dental visits were more frequent among respondents who enjoyed higher incomes and education. Most of them approved the principle of insured dental services. There were relatively few complaints over delays in obtaining a dental appointment. Most respondents relied on the advice of friends, neighbours or relatives in choosing their dentist. Other reasons given for patronizing a dentist were the convenient location of his office or the fact that he was the only practitioner available.

Cette étude de l'attitude du public à l'égard des soins dentaires portait sur 1,363 citoyens de l'Alberta. Elle révèle des divergences significantes entre la croyance et la pratique concernant les examens de routine semi-annuels. Les visites chez le dentiste se révèlent plus fréquentes chez les individus de salaire et de niveau d'éducation supérieurs. La majorité de ces derniers approuvent le principe des services dentaires assurés. L'étude signale relativement peu de plaintes touchant les retards subis pour obtenir un rendez-vous chez le dentiste. La plupart des individus accordent leur confiance aux conseils de leurs amis, de leurs voisins et de leurs parents quand il s'agit de choisir leur dentiste. Les autres raisons exprimées pour justifier le choix d'un dentiste mentionnent le fait que l'emplacement du cabinet dentaire leur convient, ou que le dentiste choisi est le seul existant.

Advances in communication, education and socio-economic opportunity are changing traditional life styles across the country. Consumers express interest in and voice opinions on many public issues, including the provision and delivery of health services. The feeling is aptly expressed by Lawrence¹ who suggests that the health status of a nation is now a concern of more than just the professional who provides the health service. Many people have come to believe that access to high quality health care of every description is an inalienable right.

This changing orientation of the public toward all forms of health care has not caught the health professional entirely by surprise. Dentists, in particular, are concerned about the practitioner-client relationship; but the profession, like the public, is often uncertain about where it stands. At the 1970 annual meeting of the Alberta Dental Association Board of Directors, specific references were made to the realization that dentistry, like other comparable professions, continues to encounter love-hate attitudes from its clients.² Other studies have found a similar professional awareness about this ambivalence.³⁻⁵ Implicit in this concern are such questions as: what are the current attitudes of the public toward dental care? What are the reasons for variation in the utilization of dental services? The answers to such questions can assist the dental profession in adapting more effectively to the changing expectations of the public.

There have been several studies of public attitudes toward dental services in Canada. Many, however, have focused on very limited samples of the population. One recent exception is a study conducted in Ontario.⁵ It showed that only a portion of the total population routinely seeks dental care. The reasons given for not seeking regular care are numerous and often contradictory. A frequent rationalization is that most people will ultimately lose their teeth, regardless of the level of dental care sought; therefore it is often a waste of time and money to obtain dental treatment.^{4,6,7}

Respondents who:	Every 6 months		Once a year		Once every 2 years		When something is wrong		Total	
	N	%	N	%	N	%	N	%	N	%
Believe in a routine dental check-up . . .	813	60.0	482	35.5	17	1.3	44	3.1	1,356	100.0
But had not visited a dentist past two years	265	19.0	196	14.5	8	0.6	31	2.3	500	36.9

Discrepancies between table totals and the sample total (1,363) are due to "no response" or uncodable answers

Family income and patterns of dental care for past two years

Table 2

Family income	A	B	C	D	E
	Did not visit dentist	Average number of dental visits per respondent	Now having a dental problem	Now have an appointment	Plan appointment in 3 months
Under \$4,000 (N=191)	57.6%	1.1	29.8%	5.6%	27.7%
\$4,000 – \$6,999 (N=223)	43.9%	1.5	39.6%	10.6%	35.4%
\$7,000 – \$9,999 (N=308)	36.7%	1.8	30.1%	14.0%	43.4%
\$10,000 – \$14,999 (N=249)	22.9%	2.1	29.7%	16.4%	47.6%
\$15,000 or more (N=108)	15.7%	2.6	21.7%	30.4%	44.4%

284 respondents refused to answer a question about the income level of the head of household

The percentages in columns D and E are derived from the respective percentage in column C and not from the total N for each income category

Much of the variation over accepting and utilizing health care is associated with the socio-economic background of the individual or group being studied. Scarrott⁸ found that working class respondents were opposed to or ignorant of the principles of conservative dentistry. The dental visit became synonymous with an expectation for extractions. In a pioneering study, Koos⁹ established a similar pattern. The lower socio-economic classes went to physicians primarily when a condition interfered with the continuance of normal daily activities and subsequent delays then made treatment more costly and troublesome.

One of the purposes of this study was to further explore the effects of socio-economic variables upon dental care. A province-wide study of Alberta was therefore undertaken during the summer of 1971. It sought to determine the public's motivations for seeking dental care; to determine the public's evaluation of the availability of dental facilities and subsequent utilization; to elicit opinions about present and future costs of dental care; and to invite comments about the methods of dental care delivery in general. This article presents selected findings from the study.

Methodology

Teams of interviewers administered a questionnaire to respondents in their homes. Most questions were of the close-ended multiple choice type. Self evaluative questions dealing with dental histories for the previous two years were also asked of all household members. A quota sample was used to gather the data. Because this type of sample is not based on selecting respondents by complete randomization, the data technically cannot be statistically generalized to all Alberta residents. However, the methods of drawing the sample and of training the interviewers were done with sufficient care so the data obtained would be representative of the range of public attitudes and behaviour toward dental care and the dental profession in the province.

The quota sample was based upon 15 population divisions established by the federal census classification system. Within each division, a 1 per cent purposive sample of the population was obtained reflecting rural-urban differences, income, educational and occupational distinctions. In those divisions with large urban populations, 1960 census data were used as a base for sampling known income,

Family income	Categories of costs				
	Too high	High	Reasonable	Total	
				N	%
Under \$4,000	48.2%	36.6%	15.2%	191	100
\$4,000 — \$6,999	35.5%	40.9%	23.6%	220	100
\$7,000 — \$9,999	36.1%	41.4%	22.5%	307	100
\$10,000 — \$14,999	28.3%	50.2%	21.5%	247	100
\$15,000 or more	19.6%	49.5%	30.8%	107	100

occupation and educational distributions. This enabled interviewers to sample from predesignated areas to enhance representation. In the more rural population divisions, the choice of respondents representing these variables was based primarily upon the training and skill of the interviewers. They were given instructions to make household choices based upon location in an area (such as homes in small communities as well as isolated farm dwellings) and visible "indicators" of varied socio-economic status.

While one of the deficits of the quota sampling system is the reliability of the interviewers to randomize their choices knowledgeably, several checks were instituted. Names and addresses (or map locations) of respondents were recorded in each questionnaire and checked upon return. If interviewers appeared to be too concentrated in one locale or socio-economic data were too similar, additional interviews in each area were obtained. Spot checks were made with respondents to verify that interviews had taken place. The senior author also worked directly with the interviewing teams.

The final number of interviews successfully completed was 1,363 and reflected data gathered from individual respondents and their respective households. The majority (67.4 per cent) of individual respondents were married females, 96 per cent of the households had at least one child living at home; 42.2 per cent of the heads of households had at least a high school education; and 48.8 per cent of the families had incomes of \$7,000 or more.

Findings

Health attitudes and practices — The often touted and common public belief that one should have a dental checkup every six months is perpetuated and reinforced by the dental profession, school health programs, parents and the mass media. However, as Table 1 indicates, there is a noticeable discrepancy between belief and practice. For instance, while 60 per cent of the respondents indicated the desirability of semi-annual checkups, 19.5 per cent of them had not been to a dentist in the past two years.

Our findings add further evidence to studies by Moen¹⁰ and Goulding⁶ who, in assessing a major United States study,¹¹ also found discrepancies between people's knowl-

edge about dental care, expressed attitudes and behaviour.

A number of factors may intervene between dental health attitudes and actual behaviour. As discussed earlier, and based upon several other studies,^{7,12-16} substantial evidence exists that socio-economic status is very important in effecting and influencing attitudes and practices toward dental care.*

Dental utilization patterns and socio-economic status — Income has always been a primary variable in studies of public dental practices and attitudes. A frequent conclusion is that dental care is considered too costly by the public and costs for dental services act as a deterrent when care should be sought or required.⁴ Huntington¹⁷ reported frequent misunderstandings between the dentist and patient over fees. He felt many of these could be avoided by a clear explanation to the patient prior to the commencement of treatment. Other studies indicate that some people have an inherent fear and distrust of dental treatment. They believe that dentists keep them returning to the office, ostensibly to keep their teeth in good shape, but more so just for the money.^{8,18}

As shown in Table 2, income level in Alberta has an important influence on the frequency of dental visits.

The highest proportion (57.6 per cent) of respondents who had not visited a dentist in the past two years were in families with annual incomes under \$4,000. A direct relationship is very clear: as the family income increases, so does the average number of dental visits.

In response to a question "do you now have a dental problem?" the same general relationship continues. The exception here is that only 29.8 per cent of the lowest income group said they currently have dental problems. This discrepancy may reflect their lack of contact with dentists. The fewer dental visits they make, the less they may know about their oral condition.

Columns D and E in Table 2 further substantiate the direct relationship between income, current dental health, and frequency of dental visits. Even with fewer current dental problems, the higher income groups tend more quickly to their dental problems.

Respondents were also asked to evaluate dental costs in general. Table 3 reveals a widespread agreement that dental costs are high.

Educational level and patterns of dental care for past two years

Table 4

Education of head of household	A Did not visit dentist	B Average number of dental visits per respondent	C Now having a dental problem	D Now have an appointment	E Plan appointment in 3 months
Grade 11 or below (N=527)	51.8%	1.1	44.5%	5.5%	26.6%
Technical school training (N=194)	37.6%	1.6	26.6%	12.0%	42.6%
High school graduate (N=305)	31.1%	2.2	28.1%	12.9%	44.2%
College work or degree (N=321)	17.4%	2.7	27.5%	28.2%	55.4%

The percentages in columns D and E are derived from the respective percentage in column C and not from the total N for each income category

It should be noted that no attempt was made to assess how respondents felt about the costs of dental services relative to the costs of other services such as medical, pharmaceutical, or the general cost of living. Nevertheless, the differences between low and high income groups are not as distinct as one might expect from Table 2. Several explanations are suggested for this. Basically, persons in the lowest income group may be especially cognizant of the financial outlay necessary for the purchase of dental care. They are either unable to afford it or expenditures for dental care receive a very low priority in their sense of values. In either case, their opinions may be based on expectations of cost rather than actual experience and this deterrent effect becomes a self-fulfilling prophecy. Though nearly 31 per cent of the highest income respondents considered costs to be reasonable, over two-thirds still believed the cost of dentistry was high or too high. This may suggest that because a greater proportion of these people seek regular dental care, a larger portion of their annual income goes for dental treatment. Hence, they are more aware of costs.

The level of education has also been recognized as being closely related to health care practices and attitudes. A positive relationship between educational level and dental health practices is demonstrated in Table 4. The higher the level of education of the head of the household, the greater the appreciation for dental health. This is a continuation of the pattern found in Table 2.

When the respondents were asked what factors they considered most important when contemplating a dental visit, different income and educational levels produced expected variations in response. However, as Tables 5 and 6 disclose, cost was most frequently chosen as the reason in almost all categories.

The respondents were also asked a question about the specific cause most often responsible in motivating them to

seek dental care. As indicated in Tables 7 and 8, preventively motivated dental visits were far more common among the groups with higher education and income. Dental visits which were symptomatically motivated were most prevalent among the groups with the lesser incomes or education. In both tables, a direct relationship is clearly established though the effects of income are more pronounced. Another analysis¹⁹ of the public's view on preventive dental health indicated that 33 per cent of all dental visits were preventively motivated. The individuals who made preventive visits had more education and higher incomes than those whose visits were symptomatically motivated. While our study confirms this pattern among the higher educated and higher income groups, 45 per cent of all respondents visited dentists primarily for preventive reasons.

Dental care insurance — Because of the concern about health care costs and because all provinces now have extensive medical care insurance, all respondents were asked a series of questions about the need for and their orientation toward a possible program of dental care insurance.

Of the respondents (N=1,073) who answered a question about the need for a dental care program similar to the present Alberta medical care insurance program, 88 per cent expressed their approval. There was no significant difference for this approval among income categories. This lack of income variation is perhaps due to the fact that since medical care insurance has become so thoroughly entrenched, people believe insured dental care will soon follow. What is more important, however, is whether different income groups would anticipate more frequent utilization of dental services if dental costs were not a major concern. Table 9 indicates that the level of income does have such an effect.

Factors considered important when contemplating a dental visit

Table 5

Factors	Household income levels				
	Under \$4,000 (N=111)	\$4,000 to \$6,999 (N=151)	\$7,000 to \$9,999 (N=201)	\$10,000 to \$14,999 (N=145)	\$15,000 and over (N=55)
Apprehension	19.8%	27.2%	31.3%	36.6%	52.7%
Fear of losing teeth	2.7%	9.9%	9.0%	9.7%	16.4%
Cost	67.6%	53.6%	51.2%	45.5%	18.2%
Waiting period for appointments	6.3%	8.6%	7.0%	5.5%	7.3%
Number of additional appointments required	3.6%	0.7%	1.5%	2.8%	5.5%

N=663; other respondents said none of these factors were considered

Factors considered important when contemplating a dental visit

Table 6

Factors	Education of head of household			
	Grade 11 or below (N=336)	Technical school training (N=122)	High school graduate (N=174)	College work or degree (N=190)
Apprehension	31.3%	26.2%	31.6%	33.7%
Fear of losing teeth	10.1%	9.8%	9.2%	8.9%
Cost	50.9%	50.0%	51.1%	46.8%
Waiting period for appointments	5.4%	12.3%	6.3%	8.4%
Number of additional appointments required	2.4%	1.6%	1.7%	2.1%

N=822; other respondents said none of these factors were considered

While all income groups reflect a projected increase in trips to the dentist, the percentage difference between the bottom and top is nearly double. Thus the data indicate that should dental insurance be instituted in the province, people in the lower income groups would be expected to over-represent any increase in dental visits.

Other research is at variance with these findings. One study focused on the utilization of dental services during the initial eight years of a broad benefit, commercially insured, employee-dependent dental plan. The findings indicated that 23.3 per cent of eligible employees and 17.2 per cent of eligible dependents submitted claims.²⁰ Other studies also indicate that the removal of the cost barrier to dental care will not necessarily create a maximum utilization by all groups who are eligible to receive benefits.^{12,20-22} Bodnarchuk²³ found that even when patients on social welfare were covered for dental care with no financial outlay necessary on their part, low and incomplete utilization of available services resulted.

Two factors must be kept in mind when attempting to project utilization patterns in a proposed dental care insurance scheme: first, what can be interpreted as optimum utilization or an ideal approach to dental health by eligible individuals; and secondly, what are an individual's needs. For example, Bulman¹² demonstrated the large discrepancy between one's own self-assessment of his oral health compared to the assessment indicated by a dental examination. Furthermore, the acknowledgement of a dental need will not necessarily result in action seeking to be interpreted as a demand for care.

In short, the evidence in Table 9, though an important indicator of current attitudes, should only be construed as potential evidence of the patterns of future behaviour.

Availability, accessibility and choice of dental services — In justifying their utilization of dental services, a great many people claim that dental care is not sought regularly because they must wait too long for a dental appointment,

Reasons for seeking dental care

Table 7

Reason	Household income levels				
	Under \$4,000 (N=191)	\$4,000 to \$6,999 (N=223)	\$7,000 to \$9,999 (N=308)	\$10,000 to \$14,999 (N=249)	Over \$15,000 (N=108)
Pain of dental origin	41.0%	34.3%	26.1%	21.4%	18.1%
Masticatory problems	3.8%	1.4%	0.0%	0.0%	1.0%
Teeth decayed	21.3%	23.0%	19.5%	18.1%	14.3%
Appearance	6.0%	2.3%	1.6%	2.9%	5.7%
Prevention & check-up	25.1%	36.5%	51.2%	57.6%	61.0%
Other	2.7%	2.7%	1.6%	0.0%	0.0%

Reasons for seeking dental care

Table 8

	Education level			
	Grade 11 or below (N=514)	Technical school training (N=191)	High school graduate (N=302)	College work or degree (N=319)
Pain of dental origin	37.7%	27.2%	22.2%	18.5%
Masticatory problems	1.8%	2.1%	0.0%	0.9%
Teeth decayed	24.9%	14.7%	18.2%	18.8%
Appearance	3.5%	2.1%	2.6%	3.1%
Prevention & check-up	30.7%	50.2%	54.3%	58.3%
Other	1.4%	3.7%	2.6%	0.3%

Income levels and anticipated utilization of
dental care insurance program

Table 9

Family income	Would definitely go to a dentist more often if there was a "denticare program" in the province?		Total	
	Agree	Disagree	N	%
Under \$4,000	57.6%	42.4%	189	100
\$4,000 — \$6,999	59.2%	40.8%	223	100
\$7,000 — \$9,999	47.2%	52.8%	305	100
\$10,000 — \$14,999	39.0%	61.0%	249	100
\$15,000 and above	31.7%	68.3%	107	100

Silver,³ in reporting one Canadian study, revealed that of the mothers who took their children to the dentist, two out of three had encountered no difficulty in getting appointments. What is the situation in Alberta? Is the complaint by the layman that he has to wait too long for a dental appointment a legitimate one? How long, in fact, do Alberta residents have to wait? Are dental emergencies satisfactorily handled?

Respondents were asked to express an opinion as to what they felt "was a reasonable time to wait" for a dental appointment in a non-emergency situation. They were also asked to specify "how long they or family members had to wait for a dental appointment" during the past two years. The data for these two questions are combined in Table 10. It appears that the appointment problems of the respondents considered one week or less a reasonable time to wait, 44.4 per cent of them had actually received appointments within this time span during the past two years. Even for some of the longer periods, people were often getting appointments sooner than expected.

The findings suggest that most dental offices in Alberta are providing dental appointments in a reasonable length of time. In fact, the availability of dental appointments in Alberta within a time period readily accepted by the population may in the future condition people to expect appointments more quickly.

As a further check on the ability of the profession to provide services in a reasonable time, questions were asked about how the profession responded to dental emergencies. Respondents were asked whether any member of the household had a dental emergency (self-defined) in the last two years. Of the 514 who replied positively, 85.6 per cent said

Expected vs actual waiting periods for dental appointments

Table 10

	1 week or less	1 to 2 weeks	2 weeks to 1 month	1 to 2 months	More than 2 months	Total N
Reasonable time to wait — expected	17.5%	34.2%	33.5%	8.6%	6.2%	825*
Actual average time wait in past two years	44.4%	18.4%	21.4%	10.6%	5.3%	850*

These figures are province-wide averages. Data on local variations are available

*The totals represent only those respondents who had one or more visits during the past two years

Dental offices: conveniently located

Table 11

Responses	Size of community						Total (N=1,332)
	Under 999 (N=70)	1,000 to 4,999 (N=273)	5,000 to 9,999 (N=114)	10,000 to 29,999 (N=120)	30,000 to 99,999 (N=62)	100,000 and over (N=693)	
Yes	47.1%	78.4%	93.0%	100.0%	98.4%	89.6%	86.7%
No	52.9%	21.6%	7.0%	0.0%	1.6%	10.4%	13.3%

their condition had been satisfactorily handled by a dentist at the time of the occurrence. Those respondents who stated the emergency was unsatisfactorily handled indicated they could not get in to see a dentist immediately.

One particular area of investigation dealt specifically with the methods utilized by people in their selection of dentists. In response to a question "in this community, how did you first choose a dentist?" 38 per cent of all respondents (N = 1,346) said they relied on the advice and recommendations of close social contacts such as friends, neighbours and relatives. The second most influencing factor reflected the choice of 28 per cent who patronized a particular dentist because his office was near by or because he was the only dentist available. Of the remaining choices, 10 per cent of all respondents sought care from a dentist who had cared for their family through the years; 9 per cent had acted on the suggestion of their previous dentist, their doctor or a non-dental professional; and 7 per cent had utilized the yellow page listings. The remaining respondents had yet to choose a dentist in their particular community.

As a further criterion of the availability of dental care, the respondents were asked to express an opinion on the accessibility of dental offices. Table 11 indicates, in general, that dental offices were conveniently located for a large proportion (86.7 per cent) of the respondents.

The only significant variation from the general response occurred where respondents resided in communities of 1,000 or less. Such centres, in all likelihood, are too small to attract a dental practitioner. The residents of these communities probably find it necessary to travel to the larger centres to get dental appointments.

Conclusions

Several conclusions are evident from the data presented.

1. Though a very large proportion of the respondents paid lip-service to the value of periodic dental check-ups, the difference between responses and actual practice was substantial. A strong positive relationship existed between income, education and dental health attitudes.

2. A strong positive relationship was also found between dental utilization patterns and socio-economic status.

3. The attitude of all respondents to a dental care insurance program was favourable, particularly so for those in lower income groups.

4. Appointments for dental services were being obtained, in the majority of cases, within an acceptable waiting period. Dental emergencies were also, in four-fifths of the cases, satisfactorily handled by the profession at the time of occurrence.

5. Most households either rely on close social contacts for advice in choosing a dentist or patronize the nearest or only dentist available.

6. Dental offices were conveniently located for 87 per cent of all respondents.

*Socio-economic status is primarily determined by income, occupational and educational indicators. In this article only income and education were included. Occupational data were obtained in all cases, but explained less variation than did the other two variables.

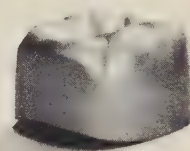
This study was conducted as Project 608-7-129 under the auspices of the Department of National Health and Welfare.

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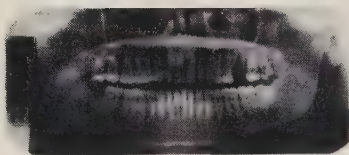
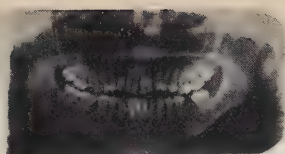
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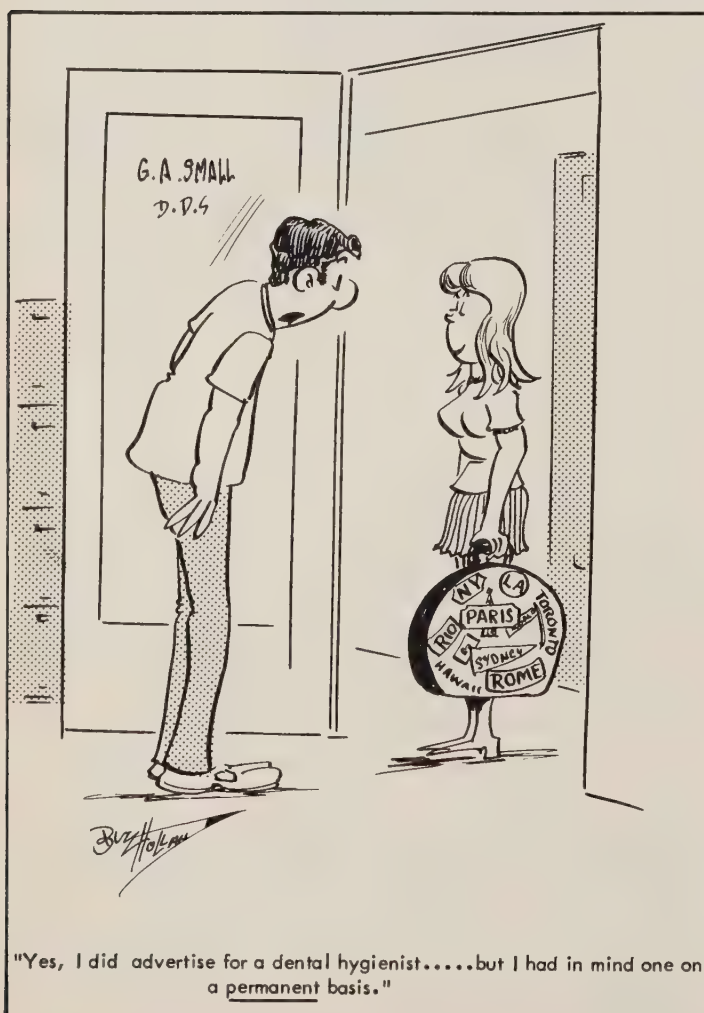
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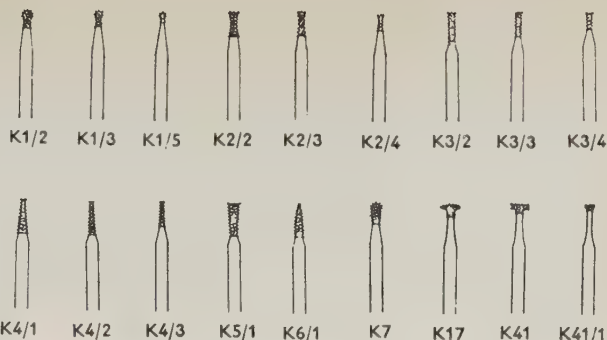
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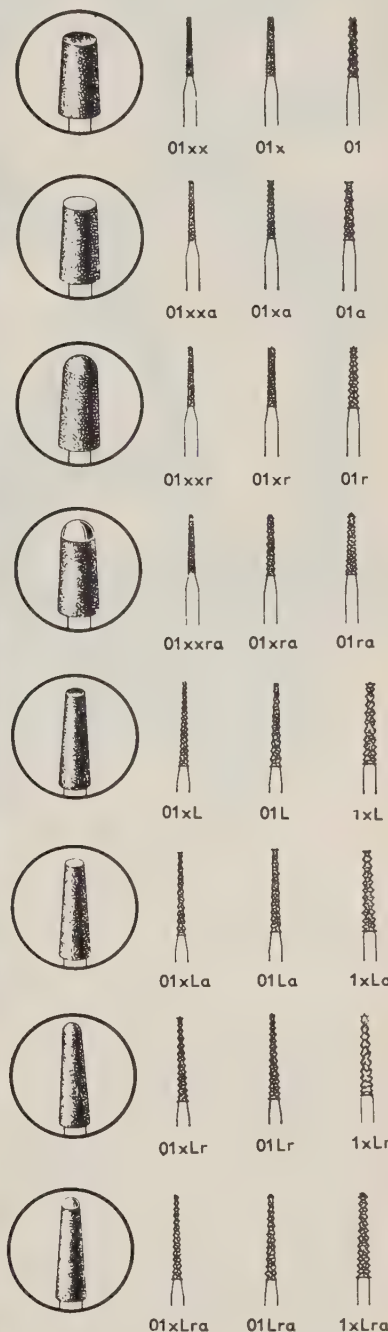
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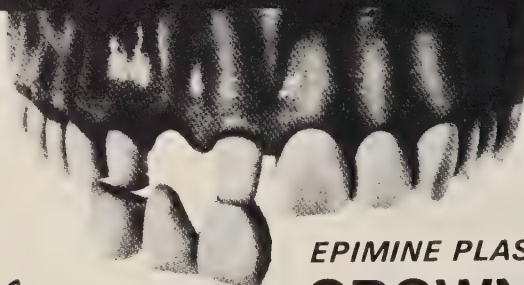
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Information including details of application procedure and conditions of appointment is available from the Registrar, University of Melbourne, Parkville Victoria 3052, Australia. Applications, referring to Position No 233004 should be addressed to the Registrar, and close on 30th June 1974.

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John O. Butler Company	438, 439
L.D. Caulk Company of Canada	432
City National Leasing	456
C.M.L. Medical Leasing Service	435
Cooke-Waite Laboratories Limited	440, 441
Cooper Laboratories Ltd.	431
Denco	405
Dentsply International	400, 416, 424, 428
Charles E. Frosst & Company	414
General Electric Medical Systems	452
Howmedica	418
Inter-Unitek Canada Limited	452
Janar Co. Inc.	IBC
Kodak Canada Ltd.	455
The C. V. Mosby Co.	459
Nobilium Products of Canada Ltd.	423
Parke, Davis & Company Ltd.	406
Pelton & Crane Company	412
Pfingst & Company	457
Proctor & Gamble	399
Régie de l'assurance-maladie du Québec	403
William H. Rorer (Canada) Ltd.	407
Shofu Dental Corporation	437
Tek Hughes	420
Whaledent Inc.	404
Williams Gold Refining Co. of Canada Ltd.	443

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**CONGRES NATIONAL
TORONTO
OCT. 8 - 9, 1974
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arrangements directly with the hotel of your choice, and register at the convention registration facilities in the Four Seasons Sheraton Hotel, upon your arrival. Ticket sales, major social events and commercial exhibits will also be at the Four Seasons Sheraton Hotel. The general scientific sessions will be at both the Four Seasons Sheraton and the Downtown Holiday Inn. The two hotels are quite close to one another, and each is the largest in its respective world wide hotel chain.

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The registration fee for dentists is \$50.00. Dentists' wives may register without charge, as may exhibitors. Make your cheque payable to CDA National Conventions.

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CDA
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TORONTO

Du 6 au 9 oct., 1974

CONVENTION



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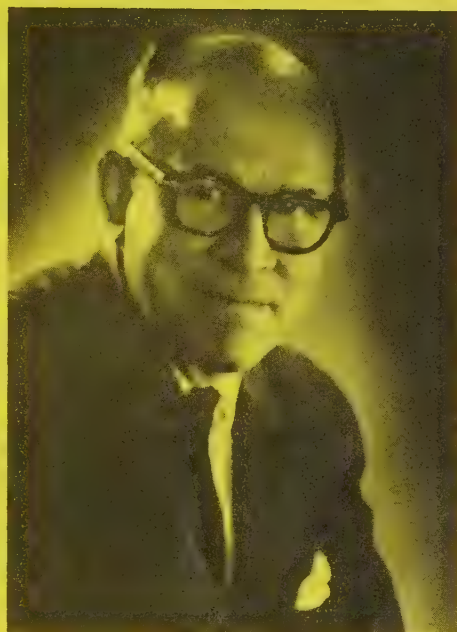
FRENCH ASSOCIATE EDITOR APPOINTED

The Executive Council of the Canadian Dental Association takes great pleasure in announcing the appointment of Gerard de Montigny, DDS., MScD., of Montreal as associate editor of the Journal of the Canadian Dental Association. Dr. de Montigny is actually returning to a position which he held during the years 1938-54. His present appointment becomes effective July 1.

Now retired from his post as director of the Department of Stomatology, University of Montreal, Dr. de Montigny will be able to devote considerable time to the French section.

"I feel the French section has an important role to play with French-speaking members of CDA," says Dr. de Montigny. "I hope to attend dental meetings throughout the province as often as possible and to report to all members, not only in French but through translations into English."

The Executive Council expressed their appreciation to Dr. Paul Simard who has undertaken the important role of associate editor since April 1972, along with his onerous duties as director of the Dental School, Laval University.



G. de Montigny

COUNCIL ON EDUCATION RECOMMENDATIONS TO BOARD

Among the recommendations which the Council on Education will present to the CDA Board of Governors Annual Meeting are:

- that Joan Voris of the Canadian Dental Hygienists' Association chair an ad hoc committee to review and recommend revisions to the Survey Policy and Accreditation Program in Dental Hygiene and to the Guidelines for the Education of Dental Hygienists,
- that the Committee on Survey Policy be increased by the addition of two members elected by the national organizations of dental auxiliaries,
- that voting representation be given on the Board to a delegate from the Canadian Dental Students Conference,
- and that the Canadian Dental Nurses and Assistants Association be given non-voting representation on the Council on Education.

FINANCE REJECTS CONTINUING EDUCATION AS TAX DEDUCTIBLE EXPENSE

Finance Minister, John Turner, has rejected, as allowable expenses for income tax purposes, travel and living costs incurred during participation in continuing education programs. Representations on this matter by the CDA, had been made in view of the fact that dentists in Alberta and Manitoba now have mandatory continuing education requirements for maintaining their licence to practice. Tuition fees for certified postgraduate refresher courses in Canada and the CDA cassette program subscription fees have been accepted for tax purposes for some time.

JOINT LIAISON WITH CANADIAN COUNCIL ON HOSPITAL ACCREDITATION

Kenneth C. Bentley, chairman of the CDA Council on Hospital Services and executive director, W.G. McIntosh, attended the first joint liaison committee meeting between the CDA and the Canadian Council on Hospital Accreditation, represented by L.O. Bradley and J. Murray. The May 21 meeting dealt with co-ordination and co-operation between the two bodies with respect to the role of dental services in hospitals and their accreditation.

CDA REPRESENTED ON GOVERNMENT ADVISORY COMMITTEE

President J.E. Abra appointed P.M. Jackin, University of Manitoba, Faculty of Dentistry, as the Association's representative to a newly-formed advisory committee to the Ministry of State for Science and Technology. Its first meeting was June 17 in Ottawa and was intended to establish dialogue with scientific and technical associations, between themselves and the federal government. Establishment of this committee is part of the forecast changes in science policy covered in the May dental research issue of the Journal.

QUEBEC HOLDS DENTAL INSURANCE SEMINAR

Sidney Silver, member of the CDA Executive Council and of the Council on Health Care, was appointed by president, J.E. Abra to represent the Canadian Dental Association at a Seminar on Dental Insurance, sponsored by the Quebec Dental Surgeons Association, June 14. Purpose of the seminar was to develop a co-operative system of communication and a well-understood claims system which would benefit the insurer and the dentist. The CDA-approved Standard Claim Form and related documentation has recently been released to all corporate members for their guidance and use.

THIRD READING FOR ONTARIO DENTURE THERAPIST BILL

Ontario Health Minister, Frank Miller's revised denture therapist bill has received third reading. The controversial bill, fully supported by neither dentists nor denturists, will permit licensed denture therapists to fit complete upper or lower dentures or both, without the supervision of a dentist. Partial dentures may only be fitted under supervision. Written and clinical examinations have been set for July and August and can be written by any denturist or technician. Preparation of a two-year course in denture therapy is still in the discussion stage with George Brown College, Toronto.

NOMINATION D'UN REDACTEUR ADJOINT

Le conseil exécutif de l'Association dentaire canadienne a l'honneur d'annoncer la nomination du docteur Gérard de Montigny, DDS., MScD., de Montréal, en qualité de rédacteur adjoint du Journal de l'Association dentaire canadienne. En fait, le docteur de Montigny reprend un poste qu'il a occupé de 1938 à 1954. Il entrera en fonctions le premier juillet prochain.

Le nouveau rédacteur a quitté son poste de directeur du département de stomatologie de l'Université de Montréal pour prendre sa retraite, et il pourra consacrer beaucoup de son temps à la section française.

"Je crois que la section française doit jouer un rôle important auprès des membres francophones de l'ADC, a déclaré le docteur de Montigny. J'ai l'intention d'assister autant que possible aux réunions dentaires dans le Québec et d'en faire rapport à tous les membres, non seulement en français, mais aussi par des traductions en anglais."

Le conseil exécutif a adressé un témoignage d'appréciation au docteur Paul Simard qui assumait les fonctions de rédacteur adjoint depuis avril 1972 en plus de ses lourdes responsabilités de directeur de l'Ecole de médecine dentaire de l'Université Laval.



G. de Montigny

LES RECOMMANDATIONS DU CONSEIL DE L'ENSEIGNEMENT AU CONSEIL

Parmi les recommandations que le conseil de l'enseignement présentera à la réunion annuelle du conseil des gouverneurs de l'ADC, mentionnons:

- que Joan Voris, de l'Association canadienne des hygiénistes dentaires, préside un comité spécial chargé de reviser et de recommander des modifications au programme d'enquête et d'agrément en hygiène dentaire et aux directives concernant la formation professionnelle des hygiénistes dentaires;
- que le comité du programme d'enquête soit augmenté de deux membres élus par les organismes nationaux d'auxiliaires dentaires;
- que le droit de vote soit accordé au Conseil à un délégué de la conférence des étudiants dentaires canadiens;
- et que l'Association canadienne des infirmières et l'Association des auxiliaires soient représentées au conseil de l'enseignement, sans y détenir le droit de vote.

LIAISON CONJOINTE AVEC LE CONSEIL CANADIEN D'AGREMENT DES HOPITAUX

Le docteur Kenneth C. Bentley, président du Conseil des services hospitaliers de l'ADC et le docteur W.G. McIntosh, directeur de l'exécutif ont assisté à la première réunion du comité conjoint de liaison de l'ADC et du conseil canadien d'agrément des hôpitaux, représenté par les docteurs L.O. Bradley et J. Murray. La réunion du 21 mai a porté sur la coordination concernant le rôle des services dentaires dans les hôpitaux, et leur agrément.

LE MINISTERE DES FINANCES REFUSE DE CONSIDERER L'ENSEIGNEMENT PERMANENT COMME UNE DEPENSE DEDUCTIBLE

M. John Turner, ministre des finances refuse de considérer, comme déductible de l'impôt, les dépenses de voyage et les frais de séjour encourus pour participer aux programmes d'enseignement permanent.

A ce sujet, des représentations avaient été effectuées par l'ADC, motivées par le fait que les dentistes de l'Alberta et du Manitoba sont soumis à des exigences d'enseignement permanent obligatoires, pour conserver leur droit de pratique. Toutefois, les frais d'enseignement des cours de perfectionnement au Canada ainsi que les cotisations au programme de cassettes de l'ADC sont considérer déductibles pour le moment.

COLLOQUE SUR L'ASSURANCE DENTAIRE AU QUEBEC

Le docteur Sidney Silver, membre du conseil exécutif de l'ADC et du conseil des soins de santé, a été nommé par le président J.E. Abra, représentant de l'Association dentaire canadienne au colloque sur l'assurance dentaire, parainné par l'Association des chirurgiens dentistes du Québec, le 14 juin. Le colloque a pour objectif d'élaborer un système de communications coopératif et un système de réclamations bien compris, profitables tant aux assureurs qu'aux dentistes. La formule de réclamation régulière approuvée par l'ADC ainsi que la documentation qui s'y rattache vient d'être distribuée à toutes les corporations membres afin de diriger leur action dans ce domaine.

L'ASSOCIATION DENTAIRE CANADIENNE REPRESENTEE AU COMITE CONSULTATIF GOUVERNEMENTAL

Le docteur J.E. Abra, président, a nommé le docteur P.M. Jackin, de la Faculté de dentisterie de l'Université du Manitoba, représentant de l'Association au nouveau comité consultatif rattaché au Ministère d'état de la science et de la technologie. Le comité, qui a tenu sa première séance le 17 juin dernier à Ottawa, se propose d'établir un dialogue avec les Associations scientifiques et techniques, touchant leur rapports entre elles et le gouvernement fédéral. La formation de ce comité s'intègre dans la prévision des changements envisagés, concernant la politique scientifique, tels que traités dans le numéro de mai de Journal et consacré à la recherche dentaire.

TROISIEME LECTURE DU PROJET DE LOI SUR LES DENTUROLOGISTES

Le projet de loi sur les denturologistes révisé par Frank Miller, ministre de la santé de l'Ontario, a subi la troisième lecture. Ce projet controversé, qui n'est pas entièrement appuyé ni par les dentistes ni par les denturologistes, permettra au denturologistes d'ajuster des prothèses du haut ou du bas ou les deux à la fois sans la surveillance du dentiste. Les prothèses partielles ne peuvent être ajustées que sous la surveillance du dentiste. Des examens écrits et cliniques pourront être subis par les denturologistes ou les techniciens en juillet ou en août. La préparation d'un cours de deux années en thérapie par les prothèses est toujours à la stade de la discussion avec le George Brown College, Toronto.

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Normal home usage—children—J.A.D.A. 64:216, 1962

Normal home usage—children—J.A.D.A. 72:408, 1966

Normal home usage—children—J. Canad. Dent. Assn. 36:262, 1970

Normal home usage—children—J. Dent. Child. 37:501, 1970

Normal home usage—children—J. Canad. Dent. Assn. 38:35, 1972

Normal home usage—children—J. Canad. Dent. Assn. 38:155, 1972

Fluoridated water—children—J. Dent. Child. 38:211, 1971

Supervised brushing—children—J.A.D.A. 58:42, 1959

Supervised brushing—children—J.A.D.A. 64:217, 1962

Supervised brushing—children—J.A.D.A. 65:482, 1962

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SnF₂ topical and prophylaxis—children—J.A.D.A. 70:914, 1965

SnF₂ topical and prophylaxis—children—J.A.D.A. 72:392, 1966

SnF₂ topical and prophylaxis—adults—J.A.D.A. 75:1402, 1967

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JOURNAL

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Editorial

Campfire chat 476

Special Features

New elastomeric impression materials — Barolet and Desautels 488

Decade of decay — Percival 496

Regular Features

Dentistry in the news 478

Les actualités dentaires 493

Letters to the Editor 474

Deaths 484

Announcements 471

Articles

Fluoride uptake from topical sodium fluoride varnish measured by
an *in vivo* enamel biopsy / Stamm 501

Classified advertising 506

Advertisers' index 510

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Urgently Needed — Single copies of the April 1974 issue of the *Journal of the Canadian Dental Association* are needed to fill out sets for libraries and other institutions. The Association would be grateful if members wish to donate their issues for this purpose.

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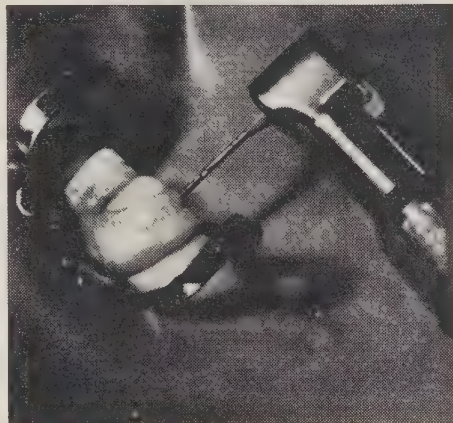
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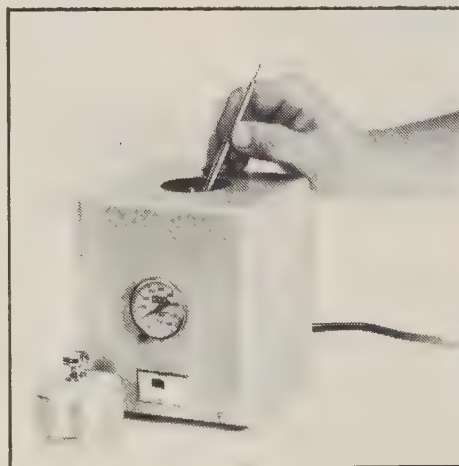


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Announcements/Avis

Information about other meetings or courses, including American continuing education courses, may be obtained by writing to CDA headquarters.

Canadian Dental Association

1974 Toronto, Ont, Oct 6-9

Complete details available from registration form. See last page.

1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14

1975 Chicago, USA, Oct 26-30

Canadian Meetings

Northern Ontario Dental Association, at North Bay, Ont. Sept 6-8, 1974. R.C. Weegar, 539 Cassells St, North Bay, Ont.

Canadian Association of Orthodontists, at Toronto, Sept 28, 1974. J.J. Schachter, Box 952, Saskatoon, Sask.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd, Ste 810, Toronto, Ont.

Canadian Academy of Periodontology, at Hyatt Regency Hotel, Toronto. Oct 4-5, 1974. J.D. Stewart, 311 Rubidge St., Peterborough, Ont. K9J 3P3.

Association of Prosthodontists of Canada, at Hyatt Regency Hotel, Toronto. Oct 4-6, 1974. G. Zarb, Faculty of Dentistry, 124 Edward St, Toronto, Ont. M5G 1G6.

Canadian Academy of Endodontics, at Royal York Hotel, Toronto. Oct. 4-6, 1974. Dr. B. Sedlezky, 4141 Sherbrooke St. W, Westmount, P.Q.

Canadian Academy of Oral Radiology, at Toronto. October 6, 1974. D.W. Stoneman, Dept. of

Radiology, Faculty of Dentistry, 124 Edward St., Toronto M5G 1G6.

Canadian Society of Public Health Dentists, at Toronto. Oct 6-7, 1974. J.M. Conchie, 14265 - 56th Ave. Surrey, BC.

Canadian Dental Hygienists' Association, at Downtown Holiday Inn, Toronto. Oct 6-9, 1974. Ms. Ailsa Wood, #301 - 160 Balmoral Ave., Toronto.

Society for Clinical and Experimental Hypnosis, Scientific Program and Workshops, at the Ritz-Carlton Hotel, Montreal. Oct 8-13, 1974. Germain Lavoie, Hopital Saint-Jean-de-Dieu, Montreal, Que. H1N 1Z0.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov 18-20, 1974. Miss M. Komarnicka, 4166 St. Catherine St. W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov 28, 1974. Mrs. P. Williams, 230 St. George St., Toronto, Ont. M5R 2P1.

Vancouver and District Dental Society, at Vancouver, Dec 6-7, 1974. Vancouver and District Dental Society, Suite 325, 925 West Georgia St, Vancouver 1, BC.

Manitoba Dental Association, at Holiday Inn, Winnipeg. January 17-18, 1975. Dr. P.R. Crawford, Chairman, MDA Annual Meeting, 308 Kennedy St., Winnipeg, Man. R3B 2M6.

College of Dental Surgeons of British Columbia, at Hyatt Regency Hotel, Vancouver. Apr 30 - May 3, 1975. K.L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC.

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975. J. Bradey, 320 Eramosa Rd, Guelph, Ont.

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1. Barkley, Robert F.: Successful Preventive Dental Practices, Macomb, Ill., Preventive Dentistry Press, 1972, p. 211.

2. Goldman, H. M., et al.: Current Therapy in Dentistry, vol. 1, St. Louis, The C. V. Mosby Company, 1964, p. 64. 3. Goldman, H. M., and Cohen, D. W.: Periodontal Therapy, ed. 4, St. Louis, The C. V. Mosby Company, 1968, pp. 319-320.

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Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W.C. Durham, 230 St. George St, Toronto, Ont. M5R 2P1.

Western Canada Dental Society, at Saskatoon. June 11-15, 1975. J.C. Horn, 101-230-20th St. E, Saskatoon, S7K 0A6

Canadian Society of Public Health Dentists, at St John's Nfld. Aug 17-20, 1975. J.M. Conchie, 14265 - 56th Ave., Surrey, BC

**Montreal Dental Club Pre-Con-
vention Seminar**, at Queen Elizabeth Hotel, Montreal. Oct 25-26, 1975. Miss M. Komarnicka, 4166 St. Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Oct 27-29, 1975. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

International Meetings

Australian Orthodontic Congress, at Sydney. Aug 5-9, 1974. P. Kinsella, 11 Anderson St, Chatswood, N.S.W. 2067, Australia.

New Zealand Dental Association, at Auckland. Aug 26-30, 1974. Conference Secretary, New Zealand Dental Association, PO Box 28084, Auckland 5, NZ.

British Society of Periodontology, London, England. Sept 5-7, 1974. Registration and accommodation forms: Ian M. Waite, Dept. of Periodontology, Institute of Dental Surgery, Eastman Dental Hospital, 256 Gray's Inn Rd, London WC1 8LD, England.

Annual World Dental Congress of the FDI, at Royal Festival Hall, London. Sept 8-14, 1974. A.G. Alexander, British Dental Assn, 64 Wimpole St, London, England.

**European Academy of Oral Im-
plantology**, at Paris, Sept. 20-23, 1974. M. Combres, 7 Avenue d'Assas, Montpellier, France.

American Institute of Oral Biology, at Palm Springs, Calif. Oct 25-29, 1974. Membership Chairman, P.O. Box 897, Glendora, Calif 91740, USA.

American Dental Association, at Washington, DC. Nov 10-14, 1974. American Dental Assn, 211 East Chicago Ave, Chicago, Ill. 60611, USA.

Association of American Women Dentists, at Shoreham Hotel,

Washington. Nov 12, 1974. Ms. H.F. Haughey, Publicity Chairman, Association of American Women Dentists, 435 North Michigan Ave., Chicago, Ill. 60611, USA.

Jamaica Dental Association, at Holiday Inn, Montego Bay, Jamaica. Jan. 26-31, 1975. E. Stephenson, 5 Lawrence Lane, Montego Bay, Jamaica, W.I.

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LETTERS TO THE EDITOR

Cultural shock

May I congratulate you on the April issue of the *Journal*. I felt it was very informative and well presented and it was certainly appreciated by all auxiliaries. I would like permission to reprint your editorial "Dental auxiliaries — cultural shock" in our journal. At the Ontario Dental Nurses and Assistants Association Convention, one speaker quoted from your editorial and said that it was the best one he had seen in the *Journal*.

Elizabeth F. Purchase
President,
Canadian Dental Nurses and
Assistants Association,
103 LeMarchant Road,
St. John's, Nfld.

Pros and cons of gifts

I'm just writing a note on the pros and cons of giving gifts to kids at the end of their appointments. I still haven't decided, myself, whether it is good to give out kids' gifts. Do any of your readers have comments?

I wonder if any thought has been given to putting out a fold-down calendar with colour pictures and informative statements (i.e. hidden sugar chart) to be distributed by dentists at New Year.

If there was interest, it might be economically feasible for dentists to buy these from the CDA in bulk to hand out in their offices.

G.M. Allison, D.D.S.
42 King St. W.,
Stoney Creek, Ont.

Clindamycin: adverse effects

In their article in the *Journal* (April 1974, pp. 295-298), Drs. deVries and Francis state that "both erythromycin and clindamycin may be considered relatively safe and useful drugs for the treatment of infections commonly encountered in dental practice . . . to date clindamycin appears to be a relatively non-toxic antibiotic." This appears to be at variance with recently published information. In March 1973, Cohen et al reported three patients seen over a period of six months with a colitis after clindamycin therapy. Scott et al in their article "Lincomycin as a cause of pseudomembranous colitis" anticipated a similar association for clindamycin as a result of their (lincomycin and clindamycin) selective effect upon the gut flora. Cohen et al offered further evidence of the potentially severe side effects of clindamycin, including a fatal case due to toxic megacolon, and there have been continuing reports associating clindamycin with colitis.

Consequently it is advised by several authors that the use of clindamycin be restricted to those situations where it is clearly the drug of choice, as in potentially life-threatening anaerobic infections. Thus, despite the authors' contention that there is very little to choose between erythromycin and clindamycin, it would appear that the dental practitioner would be wise to choose erythromycin where possible until more is known of clindamycin's adverse effects.

References were cited.

Peter A. Currie, D.D.S.,
McGill University,
Montreal, Que.

I was surprised to see a full page ad for clindamycin in the March issue. This controversial antibiotic has been blamed for numerous deaths and serious complications (*Lancet* — many letters and articles during the past six months). Surely it should not be used by dentists other than oral surgeons.

Robert Kane B. Sc., D.D.S.
Vancouver

In answer to Dr. Kane's letter, I can see how he might be alarmed. Reports of colitis following the use of clindamycin have been reported in *Lancet*, but when closely examined these patients had a history of a hyperactive gut and I am sure would develop a diarrhoea following the administration of other oral antibiotics such as erythromycin or cephalixin. It is true that lincomycin could produce this serious side effect but clindamycin was developed in order to circumvent this. We are using it in the clinic and find it very efficient and well tolerated. I can see no reason to withdraw the advertisement.

I always teach the students that there is no such thing as an absolutely safe drug. All are potentially dangerous and should never be used haphazardly. One never knows when a patient will react unfavourably to a local anaesthetic, a sedative or what have you. Personal idiosyncrasies are there to haunt us.

Joan deVries, M.D.,
Associate Professor,
Faculty of Dentistry,
McGill University,
Montreal, Que.

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EDITORIAL

Campfire chat

Actually we don't have a campfire, we just thought that title fitted in well with what was left of the July Leisure Time issue after the mail strike wiped us out. If you must have a fire to gather around, throw a match into the waste-basket. My goodness! Don't those old survey forms throw off a nice heat — those explosive ones are from the Task Force. Go ahead — use them up — we got thousands and thousands from all over Canada.

That's the point we meant to make in the first place; the response to the Task Force Survey was fantastic! Nobody can say Canadian dentists are not interested in their CDA. As the late Eddie Cantor said, "I don't care what you say about me as long as you spell my name right." It's spelled CDA.

There was really no time to work at the Journal this month; we have been wearing our other hat, "Director of Bureau of Statistics," trying to get some results of the Task Force Survey through the computer. Instead of just tabulating results and calculating percentages, it is too bad there isn't time to use some multivariant analysis techniques. You see, there will be patterns of responses pivoting around various key questions. For example, question No. 8 concerning the importance of the CDA should be able to be related to age, community size, geographic location, etc. Using factor analysis it should be possible to sort out patterns of responses from those who love us, hate us, and hopefully, those who are trying dispassionately to give good advice. But of course there isn't time — as soon as the minimum tabulation is done we must run to the rescue of the Economics of Practice

project. It is six months behind schedule now and the budget for the year ran out in May. To carry on this vital work, the Bureau of Statistics needs \$50-100,000 a year; instead a survival level of \$13,000 was requested but only \$4,000 could be assigned by the Board last October. The result is no survival.

The above is not intended to be special pleading on behalf of the Statistics Bureau but an illustration of the daily frustrations encountered by the CDA staff, whether they are working at the Journal, the DAT program, fluoridation promotion, public information, or whatever. This is the second thought we wish to give to the profession. There are some tremendously loyal people in the CDA Journal and Secretariate who work under most difficult conditions trying to do a job for Canadian dentistry. But from the Executive Director down to the (expletive deleted) caretaker's dog, nobody has enough time or facilities to make their rounds, let alone do anything constructive. So we want to say on behalf of the CDA Secretariate, that there is no dearth of ideas or ambition among your employees. However, there is frustration due to lack of time and facilities. Paraphrasing the immortal Winston, "Give them the tools and they will do the job." Will the members of the Task Force Committees please read that again. From the viewpoint of the Secretariate, the critical issues to be resolved are not just political representation or conjoint membership, etc. They see a crucial need to have priorities set on their activities and to be given the facilities to carry out the high priority jobs so that they will benefit the profession.

R.M.G.

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Seminars for training dental assistants to apply The Rubber Dam are now being planned. If you would like one scheduled for your area, drop us a note. In the meantime, you'll need back-up instruction materials. Use this coupon to get an illustrated manual designed to teach rubber dam application. It could mean a dramatic improvement in your productivity.

¹ Stebner, C. M., Economy of Sound Fundamentals in Operative Dentistry, J. A. D. A. 49:294, Sept. 1954.

² Anderson, J. A., Lecture at Dallas Midwinter Clinic, 1961.

* Many states now permit the placement and removal of The Rubber Dam by dental auxiliaries. To determine the status of your state, and the extent of supervision required, contact your local dental society or state board of dentistry.

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Yes, I would like to send my assistants to a rubber dam training seminar in this area.



Poster created for Monsieur Bonjour's Adam LaBrosse.

New campaign

ODQ FIGHTS DENTAL CARIES

The word is out! Down with caries, death to tartar and long live clean and healthy teeth! Having known for some time that the Quebec population has the highest rate of dental caries in the world and is also the most toothless, the Order of Quebec Dentists has launched an intensive and original campaign to combat this embarrassing title.

Past efforts, in the opinion of the ODQ, have placed far too much emphasis on the dispensing of information and have forgotten the important concept of motivation. With the help of its publicity consultants, the ODQ Committee on Communications, directed by Claude Chicoine, has launched a campaign primarily directed at motivation. The theme of the campaign, "Cavities are mean, so keep your teeth clean" has been aimed strongly at the student population with

the intention that it reflect upon the adult population.

The campaign has been launched using all aspects of the information media. One of these, which is somewhat unusual, is the collaboration of the Quebec Theatre of Art directed by Luiz Saraiva.

Saraiva, better known to children as Monsieur Bonjour, will present an amusing sketch dealing with preventive care with the help of his puppet, Adam LaBrosse, in the 300 schools he will visit throughout the year. This tour will also launch a picture-book contest in which more than 100,000 children will participate. The picture-book will be prepared by answering five questions about preventive care. By doing the research on the questions themselves, it is hoped the children will develop a much better consciousness of dental health.

Besides taking part in the tour with the Theatre of Art, Adam LaBrosse is seen on every French and English television station in Quebec, with his key message: "Cavities are mean, so keep your teeth clean." The message appears also on billboards in the Montreal subway system, on buses and other locations throughout Quebec. Furthermore, a quantity of commercially produced stickers will be distributed to Quebec children. Adam LaBrosse will also appear on many children's television programs and in a special edition of Coccinelle, the children's section of the week-end paper *Dimanche-Matin* with a circulation of 350,000.

The campaign theme will also be reinforced by other projects now on their way to completion. The Order of Quebec Dentists considers dental caries an enemy to be reckoned with and they intend to win this round.

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Match the tooth to the corresponding number on the EXACT shade guide.



Select the shade indicated by the guide—Universal Base 55 for the majority of most tooth shades or three alternate colors to precision match other shades.



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the "imperceptible" restorative.

S. S. White EXACT is an esthetic, strong, easy-to-use, quartz-filled composite restorative material which virtually disappears into the natural tooth.

With its familiar shade guide and multiple shade selection, EXACT offers outstanding color matching through controlled shades and translucency for optimum results.

EXACT utilizes a simple two-paste system : a universal base paste possessing the proper degree of translucency, plus a catalyst paste. The Universal Base paste No. 55 enables you to color-match the majority of existing tooth colors.

Matching extreme and unusual tooth colors is simplified too. A convenient color matching shade guide is provided, as well as three additional base shades for custom matching : Nos. 51, 57, and 59. Simply match the shade guide to the tooth, dip the needed amount of base from the jar, add a comparable amount of catalyst, and spatulate for not more than 30 seconds.

Like all two-paste systems, EXACT contains catalyst in an active state. Refrigeration is recommended between applications.

EXACT is provisionally acceptable for use in Class III and Class V restorations and for use in selected Class I and in selected Class IV restorations where esthetics is of primary importance.

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*Shannon, I.L. (1970a). Enamel solubility reduction by topical application of combinations to fluoride compounds. Journal of Oral Medicine 25 12-17.

*Journal of the Dental Association of South Africa, Vol. 27, No. 9, pp 342-347, 1972.

*Shannon, Ira L. (1970 c). Dual application of fluorides. New Mexico Dental Journal 21, 12, 32-36.

*Shannon, Ira L. & Wightman, J.R. (1970). Treatment of root surfaces with a combination of acidulated phosphofluoride and stannous fluoride. Journal of the Louisiana Dental Association 28, 14-17.

New series starts

DENTAL MATERIALS AND DEVICES

A brand new series of practical commentaries on materials and devices used by the profession begins in this issue of the *Journal*, prepared by members of the Committee on Dental Materials and Devices and other consultants. These will appear at regular intervals in the interest of providing an improved viewpoint and up-to-date information for the use of the members of the profession.

The Committee began in 1966, as a result of the concern of the Canadian Dental Association and the Council on Research with the problem of protecting the profession and the public from inferior, unsuitable or harmful materials and devices used in dentistry. The original two-member sub-committee formed by Z. Kasloff, now of Tufts University, has grown to six full-time members, under the chairmanship of D.C. Smith, Professor of Dental Materials Science, University of Toronto.

By its terms of reference, the Committee is responsible for evaluating and providing commentary to the profession on materials and devices ordinarily employed for the maintenance, correction and restoration of oral function; to develop Canadian specifications for dental materials and devices in liaison with the Health Protection Branch of National Health and Welfare and through the Standards Council of Canada with the Canadian Standards Association and the International Standards Organization. It is to foster a program for testing, evaluation, acceptance and certification in Canada. It can call on consultants for assistance and advice on matters applying to products which are beyond the committee's competence. It is also responsible for establishing ethical guidelines for advertising and/or demonstration of any and all materials and devices employed in dental procedures which fall within its jurisdiction.

Currently, members in addition to the chairman are: P.C. Desautels, University of Montreal; D. Gau, University of Alberta; L.N. Johnson, Univer-

sity of Western Ontario; Z. Kasloff, Tufts University; and R.Y. Barolet, Laval University.

According to Dr. Smith, the Committee has already become deeply involved in the development of national and international dental standards and is currently in close consultation with the federal government over implementation of the medical devices section of the Food and Drugs Act.

"In addition to these commentaries for the *Journal*, status reports and the answering of direct enquiries from individual dentists, we are now planning a new program on complaints received from practitioners regarding the various materials and devices on the market," says Dr. Smith.

"Our intent would be to act as a liaison with the manufacturers in order to improve current and future products. We hope to make the practitioner aware of sub-standard or actually hazardous products."

Internationally, members of the CDA Committee serve on the Canadian Advisory Committee to the International Standards Organization Technical Committee 106 for Dentistry and have recommended acceptance in Canada of the 16 existing ISO standards. The Standards Council of Canada has funded this project. They also maintain active co-operation with the Council on Dental Materials and Devices of the American Dental Association.

Nationally, the Committee has been invited to join a Section Committee of Health Care Technology, organized by the Canadian Standards Association. A proposed dental committee of this organization would develop and co-ordinate all standards writing activity in the country. This would provide a basis for a national standards program for dentistry.

This year, as previously, yearly costs of the Committee on Dental Materials and Devices have been funded by grants from the Canadian Fund for Dental Education and the Association.

Executive director to address FDI Congress

W.G. McIntosh, executive director of CDA, is an invited panel guest and speaker during the 62nd annual Congress of the Fédération Dentaire Internationale. Overall scientific theme of the Congress, which is being held from September 8-14, is "The dentist's role in a changing society." Dr. McIntosh will speak to the first theme "Society's expectations of dentistry." He will approach the topic from the point of view of organized dentistry.

Other speakers will cover current attempts to satisfy society's needs and meeting the challenge of a changing society.

London's Royal Festival Hall on the banks of the Thames River is the site of the conference, giving the British Dental Association its first opportunity since 1952 to host the international meeting. In addition to the scientific sessions, there will be table clinics, trade and scientific exhibitions as well as the business meeting of the FDI itself. Official languages are English, German, French and Spanish, with simultaneous interpretation.

The Scientific Program will also include an international conference on public relations and health education in dentistry and open sessions on dental care of the handicapped patient and continuing education in dentistry.

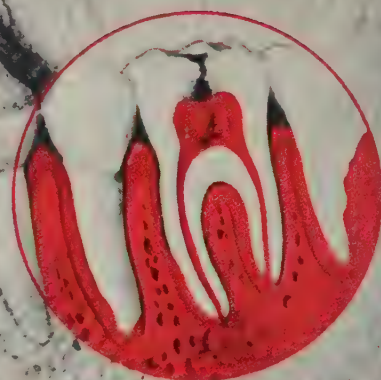
CDA members interested in attending the FDI Congress this Fall can obtain registration forms from the Executive Director, Canadian Dental Association, 234 St. George Street, Toronto, Ontario M5R 2P2.

N.S. study club formed

A group of interested Halifax practitioners have formed a study club, under the name of the Chebucto Dental Seminar and the chairmanship of E.S. Morrison. Membership consists of not more than 12 members, all of whom devote the majority of their practice to restorative dentistry.

At their monthly meetings throughout 1973-74, the subject under discussion has been "Soft Tissue Considerations During Restorative Procedures."

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“Clindamycin [Dalacin C] appears to be an acceptable substitute for penicillin as a prophylactic antibiotic prior to oral surgical procedures in patients with true or alleged allergies to penicillin when antibiotic treatment is indicated.”¹

1. Wiesenbaugh, J.M., Jr. (Mar., 1971). 37(3):302.

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Dalacin C

Capsules, Flavoured Granules, Injectable for prompt control of streptococcal throat infections

Indications: Dalacin C is indicated in infections caused by organisms susceptible to its action, particularly streptococci, pneumococci, and staphylococci. In addition to the above organisms, Dalacin C Phosphate Sterile Solution is indicated in certain infections due to anaerobic bacteria, including *Bacteroides* species, *Peptostreptococcus*, anaerobic streptococci, *Clostridium* species and microaerophilic streptococci. As with all antibiotics, *in-vitro* susceptibility studies should be performed in conjunction with clindamycin therapy.

DOSAGE AND ADMINISTRATION:

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Adults:

Mild to moderately severe infections — 150 mg every 6 hours.

Severe infections — 300 mg or more every 6 hours.

Children (over 1 month of age):

Mild to moderately severe infections — 8 to 16 mg/kg/day divided into three or four equal doses.

Severe infections — 16 to 20 mg/kg/day divided into three or four equal doses.

DALACIN C PALMITATE Flavoured Granules for oral solution

Children (over one month of age): 8-25 mg*/kg/day divided into three or four equal doses.

*Depending on the severity of the infection. See C.P.S. 74 for complete dosage information.

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Adults:

Intramuscular—600 to 2400 mg**/day in two, three, or four equal doses. Intramuscular injections of more than 600 mg in a single site are not recommended.

Intravenous — 900 to 4800 mg**/day by continuous drip or in three or four equal doses, each infused over 20 minutes or longer. Administration of more than 1200 mg in a single one hour infusion not recommended.***

Children (over one month of age):

Intramuscular — 10 to 30 mg**/kg/day in two, three or four equal doses.

Intravenous — 15 to 40 mg**/kg/day by continuous drip or in three or four equal doses, each infused over 20 minutes or longer.***

**Depending on the severity of the infection.

***Dalacin C Phosphate Sterile Solution should not be given undiluted intravenously; always administer in an infusion. See product monograph supplied with each package for complete dosage information and infusion rates.

Absorption of Dalacin C is not appreciably modified by ingestion of food and Dalacin C may be taken with meals with no significant reduction of the serum level.

Note: With β -haemolytic streptococcal infections, treatment should continue for at least ten days to diminish the likelihood of subsequent rheumatic fever or glomerulonephritis.

Cautions: Generally well tolerated. Usual antibiotic side effects—abdominal discomfort, loose stools or diarrhoea, nausea, vomiting. Cases of severe and persistent diarrhoea have been reported and have at times necessitated discontinuance of the drug. This diarrhoea has been occasionally associated with blood and mucus in the stools and has at times resulted in an acute colitis. Transient neutropenia (leukopenia), or abnormalities in liver function tests have been observed in a few instances. Mild hypersensitivity reactions (skin rash and urticaria) have been observed on rare occasions.

Use with caution in patients with a history of asthma and other allergies. As with other antibiotics, periodic liver function tests and blood counts should be performed during prolonged therapy. Not indicated in patients who have demonstrated sensitivity to lincomycin. Safety in pregnancy not established. Dalacin C is not indicated in the newborn. When Dalacin C Phosphate is administered to infants, appropriate monitoring of organ system functions is desirable.

AVAILABILITY:

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150 mg Capsules — Each capsule contains clindamycin hydrochloride hydrate equivalent to 150 mg clindamycin base. Supplied in bottles of 16, 100 and 500.

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Dalacin C Palmitate — When the contents of the bottle are dissolved in the quantity of water indicated on the label, each 5 ml contains clindamycin-2-palmitate hydrochloride equivalent to 75 mg clindamycin base. Supplied in 60 ml and 100 ml bottles.

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Dalacin C Phosphate Sterile Solution — Each ml contains clindamycin-2-phosphate equivalent to 150 mg clindamycin base. Supplied in 1 ml and 2ml ampoules. Detailed information available upon request.

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PMAC

Two new provincial dental plans

N.S. DENTAL ASSOCIATION WELCOMES MOVE

D.A. Stewart, president of the Nova Scotia Dental Association, has welcomed the announcement of the province's dental health service for children, which begins July 1.

"Our association has long advocated such a plan through briefs presented to government and by the dental task force report to the province's health commission."

He said the inclusion of all dentally necessary services with an emphasis on the preventive aspects of dentistry along with the inclusion of all children up to seven years of age were all recommended by the NSDA. The association will have an important role to play in the implementation of all program phases.

The former Minister of Public Health, Scott MacNutt, announced the program as "... one more step in ensuring that adequate health services are provided to all Nova Scotians without regard to their ability to pay."

The program will be administered by Maritime Medical Care, Inc. as part of the MSI program. No special registration is necessary because the cur-

rent MSI card shows the year of birth of each child and will permit the dentist to determine which of a family's registered dependents will be entitled to the new benefits. Officials estimate that more than 90,000 children are eligible.

All provisions of the health services and insurance act will apply to the program. A dentist can opt in or out. A dentist who opts out is requested to supply the parent of the patient with sufficient information to place an MSI claim. Remuneration is based on 85 per cent of 1973 schedule of fees for general practice and such specialist fees as determined by the health services and insurance commissions. Charges in excess of the MSI tariff can be made if the patient is advised in advance and told the amount of the extra charge.

The plan includes all necessary diagnostic and preventive services including preventive orthodontia, restorative services, endodontics, periodontics and oral surgery as well as certain referred specialist services.

MOBILE PROGRAM FOR N.B.

New Brunswick Health Minister, Lawrence Garvie, has announced a mobile dental health program for the province, aimed at preventive care among grade one children in eight school districts.

The districts chosen are St. Quentin-Kedgwick, Shippegan, Buctouche, Boiestown-Doaktown, Nackawic, McAdam-Harvey, Grand Manan Island and Harvey-Albert. Children in these districts are currently without dental services and, therefore, are the first to be covered by the program.

The plan provides for a mobile trailer and a motorized van. The former will be staffed with one dentist, two dental hygienists, three dental assistants and a receptionist. It will be equipped to provide a full range of

services including prevention, education and treatment. The trailer will be located next to schools to reduce travel problems for the children.

The van will be staffed with a dentist, dental hygienist and two dental assistants. It will provide basically the same services as the trailer but will be used primarily in districts with low enrolment or in areas difficult to reach with the larger unit.

Dentist recruitment has been stepped up and financial aid is being provided to New Brunswick dental students in return for future service either in underserved communities or in the children's program. So far eight bursaries have been awarded since the program started last November.

U OF T BEGINS STUDIES OF DENTAL HEALTH CARE

A Dental Health Care Services and Epidemiology Research Unit has been established within the Faculty of Dentistry, University of Toronto. Initial funding has been provided by a grant from the Ontario Ministry of Health. The Unit is attached to the Department of Community Dentistry and has as its core staff A.M. Hunt and D.W. Lewis. Research associates are Sharon Gilbert and Christa Wypkema. The Unit also draws on a staff of 37 consultants from across Canada including those specializing in economics, sociology, administration, epidemiology, operations research and public health.

The three main functions of the Unit are: to conduct research in dental health care services and epidemiology; to provide advisory and research services for associations, government, institutions and researchers engaged in related studies; and to promote good dental care services research by providing opportunities for education and practice in the area.

Currently in progress is an extensive review of the various methods of payment for dental and medical services. The report will include an analysis of these payment mechanisms with regard to advantages and disadvantages to all parties including the dentist, the patient and any third party agency. In light of current health costs and future denti-

care plans, the report will consider abuse and varying costs for each method.

Initial work has been done on the quality of dental care, consisting of a radiographic evaluation of fillings placed in a long-term incremental care program for school children. Also underway is a literature review of the scientific basis of the content of good diagnostic and preventive dental services and the frequency of need for such services. Data on the utilization of dental services in Canada has been collated and is now being summarized for distribution.

Among other projects is the study of the distribution and adequacy of dentist supply, undertaken with the help of the Ontario Dental Association. Preliminary papers on this and the relative effectiveness of different auxiliary teams have been prepared. Finally, data gathered by A.M. Hunt, under a grant from the federal government, on dental care systems in a number of European countries are being analyzed.

The Unit solicits opinion on research priorities and the identification of relevant data sources and reports. Anyone wishing to contact the Unit should write in care of the Faculty of Dentistry, 124 Edward Street, Toronto, Ontario M5G 1G6.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on May 31, 1974:

Guaranteed Fund \$10.912;

Fixed Income Fund \$14.023;

Common Stock Fund \$26.913.

Total assets (market value) of the plan were \$17,120,543.48.

The following portfolio purchases and sales occurred during the preceding month: bought, 25,657 units Classified Fund, \$200,000 Bank of Nova Scotia

note, \$480,000 Royal Trust GIR, 1,600 shares Noranda Mines, \$200,000 Aluminum Company of Canada note, \$300,000 Ford Motor Credit Co. note. Sold, \$400,000 Ford Motor Credit Co. note, \$200,000 City Corpl Financial Service note, \$480,000 Royal Trust GIR.

For further information please write to CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto, Ont. M5R 2P1.

NHW research grant to Manitoba

The Department of Health and Welfare Canada has awarded a grant of \$30,257 to support a one-year research project into some causes of periodontal disease.

The award was made to D.F. Dupeyron, a pedodontist, and S.D. Biswas, an oral biologist, both of the Faculty of Dentistry, University of Manitoba.

The purpose of the research project is to attempt to delineate the age at which changes in pH behavior of the inflamed crevices takes place, and to attempt to isolate the factor or factors responsible for this change. These findings may result in alternate methods of preventing calculus formation in the susceptible age groups.

Deaths

Donald, Stanley Keir. 82. Moncton, N.B. Royal College of Dental Surgeons of Ontario, 1923.

Fletcher, Josiah David. 80. Vancouver. North Pacific College of Oregon, 1917. 8-5-74. Survived by Anna (wife), and David (son).

Joudrey, Gordon Everett. 81, Bridgewater, N.S. University of Maryland. 10-5-74. Survived by Gertrude (wife), and Mrs. Marie Lawlis (daughter).

Livett, John Chatteris. 83. Toronto. Royal College of Dental Surgeons of Ontario, 1916. 8-5-74.

McGowan, James Cooney. 75. Hamilton, Ont. Royal College of Dental Surgeons of Ontario, 1921. 2-5-74. Survived by Geraldine (wife); James and Joseph (sons); Mrs. R.E. Creighton, and Geraldine (daughters).

Ryan, Frederick, Curtis. 52. South Burnaby, B.C. McGill University, 1952. 6-5-74. Survived by Joyce (wife); John and Michael (sons); Mrs. Claudia Wood, and Patricia (daughters).

Stern, Louis Arthur. 71. Winnipeg. University of Toronto, 1940. 20-5-74. Survived by his wife, and Leslie and Robert (sons).

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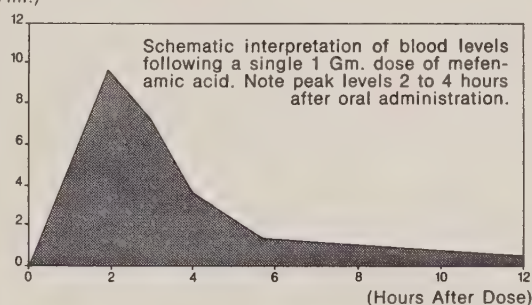
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non-narcotic relief of dental pain

Single- and multiple-dose studies have shown that mefenamic acid usually reaches peak plasma levels 2 to 4 hours after oral administration. Thus, PONSTAN every 6 hours is generally sufficient for relief of mild to moderate pain. The recommended dosage of PONSTAN for adults and adolescents over 14 years of age is 500 mg. (2 capsules) initially, followed by 250 mg. (1 capsule) every 6 hours as needed.

Clinical experience has shown that side effects with PONSTAN are few and mild at the recommended dosage, but are readily detected and easily controlled when resulting from high dosage or long-term use.

Plasma Levels
(mcg./ml.)



*References available upon request.

Dosage and Administration: Adults and adolescents over 14 years of age — 500 mg. (2 capsules) as an initial dose, followed by 250 mg. (1 capsule) every six hours as needed. The major portion of clinical experience with PONSTAN has varied from single doses to 84 days of therapy.

Contraindications: Intestinal ulceration; diarrhea as a result of taking the drug; safe use in pregnancy not established; in children under 14 years of age until pediatric dose has been established.

Precautions: Administer with caution to patients with abnormal renal function, inflammatory diseases of the gastrointestinal tract, or those on anticoagulant therapy.

Discontinue if diarrhea or rash occurs.
Side effects: Mild and infrequent at doses up to 1500 mg. per day; dose-related, being more frequent with higher doses. Most frequently reported: drowsiness, dizziness, nervousness, nausea, diarrhea, G.I. discomfort, vomiting. For detailed information on Precautions and Side Effects see product brochure available on request.

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formulation is non-toxic for hard and soft tissue . . .
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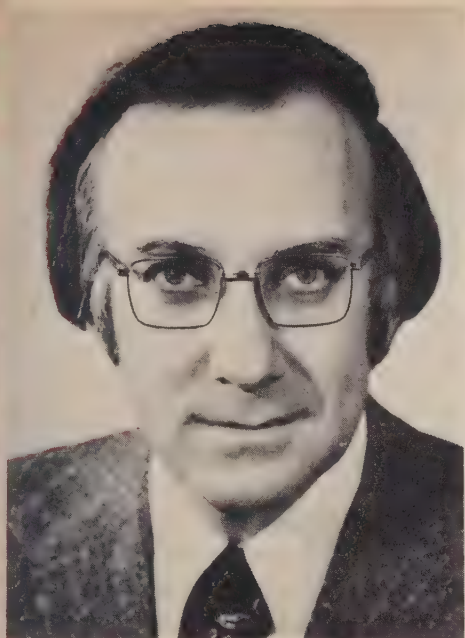
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Ontario president

M.D. (Mel) Charendoff was installed as 1974-75 president of the Ontario Dental Association during the Association's 107th Annual Meeting in Toronto.

An active member of the Ontario Dental Association for a number of years, Dr. Charendoff was elected to the ODA Board of Governors in 1969 and to the Executive Council in 1972; during that time he also served on a number of the Association's committees.

In his first speech as ODA President, Dr. Charendoff said denticare and the greater use of dental auxiliaries, which he identified as closely related issues, would "bring about definite changes with which the profession will have to come to grips."

"As far as denticare is concerned, the ODA announced its proposals to the government last summer. Since that time, many working committees, composed of representatives from government and the ODA, have been gathering the necessary resource material upon which the scheme will be based. Hopefully, it will continue to be a joint venture which will result in a plan where the profession can willingly function, and through which the public can receive the ultimate benefit — the best dental care anywhere," said Dr. Charendoff.

CDA statement of principles released

CHILDREN'S DENTAL HEALTH PLANS

A statement of principles entitled, "Guidelines—Dental Health Plans For Children," was released in June by the Canadian Dental Association for the use of corporate members. The guidelines are based on the Association's official dental health plan for children, approved in 1968, but condense the major points of the plan for quick scanning and comparison. The guidelines were approved by members of the Board of Governors. They will also be made available to all federal members of the newly-elected parliament.

The guidelines state:

Canada's children are entitled to the highest quality dental service the nation's resources can provide. Implementation of the following guidelines, recommended by the Canadian Dental Association, will help to assure the availability of this high quality dental health care.

1. The major emphasis of any plan and its highest priority should be given to its educational and preventive components.
2. Fluoridation of communal water supplies to controlled levels should be mandatory. Fluoridation is a safe, inexpensive and proven public health measure that can reduce by half the incidence of dental caries and the need for dental treatment.
3. Children should be gradually phased into the program beginning with pre-schoolers (up to 5 years), adding incrementally other age groups as resources and other facilities permit.
4. The plan should eventually allow for continuing coverage up to age 18 or until the child leaves school.
5. Patients should be free to choose their own dentist without losing the financial credits provided by the dental plan.
6. The plan should utilize practitioners engaged in private practice, unless it is impractical to do so. This will allow patients freedom in choosing the dentist of their choice

as well as eliminating the need for a complete restructuring of Canada's present dental care delivery system.

7. A licensed dentist must assume the ultimate responsibility for the welfare of the patients, and the competent performance of all dental services rendered at his direction.
8. The delegation by the dentist of intra-oral procedures to formally qualified dental auxiliaries should take place only after the diagnosis and treatment plan have been determined by the dentist.
9. Intra-oral procedures rendered by qualified dental auxiliaries should be performed only under the effective supervision of the dentist.
10. The plan should contain provision for the continuing education of all dentists and dental auxiliaries.
11. Regular recall appointments, usually semi-annual, should be included as a prescribed part of the plan. When making the recall examinations, the dentist should give emphasis to the diagnosis and prevention of all aspects of oral disease and abnormality.
12. Diagnostic preventive and treatment services should be readily available to children with handicapping conditions. The service should be performed by or under the direct supervision of a dentist qualified to render these services; and when indicated, the services should be provided in an environment suited to the specific needs of the child.
13. In order to minimize dental problems resulting from participation in contact sports, a mouthguard, acceptable to the dental profession, should be a part of the service provided in a dental plan serving children.
14. Systems of cost accounting and of gathering dental health statistics should be instituted as integral parts of the plan for purposes of comparison and control.

Commentary presented by Committee on Dental Materials and Devices

NEW ELASTOMERIC IMPRESSION MATERIALS

Prepared by
R.Y. Barolet, DDS, MSD
P.C. Desautels, DDS, MSD

Information presented in this series of commentaries on dental materials and devices is based on the latest available data, at time of writing. It is reported in good faith. No legal or other authority is claimed for the opinions expressed.

Impression materials used in dentistry are of two basic types, elastic and inelastic. By far the greater use of impression materials for precision work has fallen on the elastic materials and the various rubber-type materials have especially gained wide acceptance. Until now there were only two basic types, polysulfide base and silicone base rubber materials. Recently, new elastomeric type impression material has been introduced to the Canadian profession¹ — it is a polyether base polymer which is polymerized by means of reactive imino end groups.

The material is supplied in a two-tube pack containing polymer and catalyst pastes. The catalyst is an aromatic sulfonic acid ester which initiates the reaction of the terminal imino groups and causes polymerization of the paste to a firm rubber. The base is colored either orange or pink and the catalyst is dark blue. The final product when mixed is thus either green or purple depending on the brand,* and is a clean, odorless, pleasant-tasting product. A separate tube of thinner is available to decrease the viscosity of the mix from a regular to a lighter body.

Mixing time

Equal lengths of base and catalyst can be easily mixed in thirty to forty-five seconds to obtain a uniform and

streak-free color. A definite color change aids the mixing procedure.

Working time

These materials have a relatively short working time when compared to conventional polysulfide or silicone base materials.² The manufacturers suggest an approximate working time of two-and-one-half minutes at 72°F measured from beginning of mix.

Setting time

Tests³ have shown that one material has a five minute setting time as compared with ten minutes for a polysulfide base rubber.

Rigidity

The rigidity of the set material is much greater than a regular-bodied polysulfide or silicone rubber. Modulus of elasticity measurements indicate that the rigidity of this type of material once set is even greater than a heavy-bodied polysulfide.³ This may make a complex impression difficult to withdraw from the mouth. Also the stiffness may make separation of a stone model from the impression a problem in the dental laboratory.

Elasticity and tearing strength

An elastic impression material when it is being removed from the mouth is subjected to different stresses; there-

fore it should have sufficient strength to resist tearing and adequate elasticity to return to its original shape once removed. The elasticity of polyether polymers compares favorably with that of polysulfide rubbers. Addition of thinner reduces the rigidity of the mass without loss of elasticity.³ Tearing characteristics have been measured⁴ which have shown polyether rubbers to have similar tearing energies to silicones but less than polysulfides. This indicates that the material is more likely to tear in clinical usage than would a polysulfide.

Reproduction of details

As in the case of polysulfide and silicone rubbers, polyether base materials yield excellent reproduction of details.⁵

Dimensional stability

There are a number of sources of dimensional change:

- (a) polymerization shrinkage: a shrinkage takes place during and after the setting of a rubber impression material, which can be as high as 0.4 per cent depending on the product;⁶
- (b) distortion of the tray;
- (c) poor adhesion of the material to the tray;
- (d) high coefficient of thermal expansion: temperature changes which

occur from the mouth to room temperature can result in a significant dimensional change if the coefficient of the material is relatively high;

(e) uniform material thickness between the oral structures and the tray.

Two independent tests were conducted in 1973 on dimensional stability of polyether base materials as compared to polysulfide and silicone base materials. The first⁷ performed at Laval University compared the stability of a polyether† impression material against a polysulfide‡ impression material. Impressions were taken of a Bureau of Standards M.O.D. die, and models were cast after varying lengths of time. The results showed excellent stability of the polyether impressions even after delaying the pouring of the models for three days, whereas the polysulfide polymer showed an ever increasing distortion resulting from a delay in the pouring of the models.

The other series of tests, conducted at the Université de Montréal, evaluated the stability of the same polyether† material, a silicone§ and a polysulfide material.** Impressions were taken of three dentoform teeth previously prepared for full crown coverage, MODBL and MOD inlays. Some models were poured immediately after the impressions were taken; other models were poured after two hours and finally the last impressions were poured after twelve hours. Results showed once again excellent dimensional stability after twelve hours whereas the polysulfide and the silicone impressions both lost dimensional accuracy after two hours.⁸ In both studies excellent dimensional accuracy was obtained using all the materials when models were poured immediately.

This remarkable dimensional stability can be explained in part by the fact that the setting of polyethers involves a reaction to form a cross-linked polymer without the formation of any by-products; thus there is no measurable dimensional change on setting.⁹ Fully polymerized rigid trays were used to avoid distortion and great care was taken to ensure that a uniform coat of the manufacturer's recommended

adhesive was placed on the trays prior to impression taking. Temperatures were maintained constant throughout the tests to avoid thermal dimensional change effects and uniformity of the impression material thickness was obtained by the use of custom fabricated trays.

It should be pointed out that prompt pouring of a cast is still the desired course of action because this eliminates the possibility of any distortion with time from sources which may not be under the control of the practitioner. Some of these might be the transfer of impressions from the dental office to the dental laboratory in extremely cold or warm weather, possibly tray distortion with time, etc. The coefficient of thermal expansion of polyether rubber is somewhat higher than polysulfide impression materials, because this material has a lower filler content than polysulfide rubber.³

Another factor which could influence accuracy is the high affinity of a polyether elastomer for water which could lead to swelling of the impression followed by an extraction of the water soluble material present in the rubber.³ Care must be taken to avoid prolonged contact of this material with water. Since contact with moist oral tissues and various humidities cannot be avoided, this water absorption capability is the main disadvantage of this impression material. The effects of water absorption are more noticeable in thin specimens of rubber, especially if thinner has been added to the mix to decrease its viscosity. Some authors³ question the use of thinner and even consider it to be of doubtful value.

Practitioners should be able to obtain impressions of excellent accuracy if the proper manipulative techniques and safeguards are followed.

Summary

Polyether rubber impression materials are clean, odorless and pleasant tasting products that are easily mixable but have a relatively short working time. They yield accurate, fairly rigid impressions that can pose some difficulty to practitioners when they are removed from the mouth. Excellent dimensional

stability permits some delay in pouring of the casts after the impression has been taken. Inaccuracies can result from a high coefficient of thermal expansion and a great affinity of the material to absorb water. The use of a thinner to decrease the viscosity of the mix and the rigidity of the set polymer also decreases the dimensional stability of the end product.

Dr. Barolet is Assistant Professor and Secretary, Université Laval, School of Dental Medicine, Ste. Foy, Quebec, P.Q.

Dr. Desautels is Assistant Professor, Dental Materials, Université de Montréal, Faculty of Dental Surgery, Department of Restorative Dentistry, Montreal, P.Q.

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8. Desautels, P. et al. Stabilité dimensionnelle de trois types de matériaux à empreintes élastiques, Université de Montréal, 1973.
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Footnotes

* Impregum ESPE (Premier Dental Products Co.); Polygel (L.D. Caulk Co. of Canada).

† Impregum impression material, ESPE/Seefeld.

‡ Permlastic regular, Kerr Canada.

§ Citricon, Kerr Canada.

** Mim, S.S. White, Philadelphia, Pa.

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ing city hall complex that looks like the year 2,000 and a great, turreted castle straight out of Camelot. Galleries, museums and miles of beautiful parks are all there to enjoy. ¶ Just another big city? We don't think so. Try us. Have an affair in '74 with Toronto, the big city that never forgot how to be a town. ¶ Spend a few days enjoying and benefitting from a practical and stimulating program, informal give and take with colleagues, and the many other attractions planned for you. Attend Canada's largest convention, Oct. 6 to 9.

Write Canadian Dental Association, National Conventions, 234 St. George Street, Toronto, Ontario M5R 2P2, Canada, for information. Or telephone (416) 962-3261.

STRESSES CANADIAN DENTAL EXPERTISE

What's new in operative dentistry?

The University of Western Ontario dental school is making an increasingly important impact on dental teaching in Ontario. A good part of the strength of the school lies in such men as Ronald Jordon. His excellent research efforts currently centre on subjects of immediate, practical value to every dentist.

Dr. Jordon will be reporting to the scientific sessions on the results of a three-year research project into anterior restorations, pit-fissure sealants, silver amalgam restorations and treatment of

deep, carious lesions. He will appraise, evaluate and compare the new materials being offered to practitioners.

It will be particularly refreshing to hear a Canadian report on materials, to complement those usually available from the American Dental Association.

Dr. Jordon has taught at the Universities of Manitoba, Washington and Pittsburgh as well as Western Ontario. From 1962 to 1964, he was on the faculty of Dalhousie dental school and his book "Dental Anatomy and Occlusion" is used by students at the school.

Minimize removable partial denture failures

Many failures in removable partial denture construction can be minimized by close communication between the dentist and the dental laboratory technician. The presentation of this topic and the technical considerations which must be considered by both the dentist and the technician will be given during the CDA scientific program by Paul

Sills, associate professor, Department of Restorative Dentistry, University of Western Ontario.

Dr. Sills is a Diplomate of the American Board of Prosthodontics, a Fellow of the American College of Prosthodontists, member of the American society and secretary-treasurer of the Canadian academy.

1974 ANNUAL MEETING CDA BOARD OF GOVERNORS

The 1974 annual meeting of the Board of Governors of the Canadian Dental Association will be held October 3-5 at the Four Seasons Sheraton Hotel, Toronto. The meeting is open to all members of the Association.

The Board meeting is followed by the national convention of the Association and begins with the official opening at one o'clock, Sunday, October 6.



R.S. Locke

Canadian dentist's view of acupuncture from inside China

If some time from now, the dentists of Canada are actively engaged in using acupuncture in their everyday practices, it may well have something to do with a crash course taken inside China this spring and summer by Robert S. Locke, University of Toronto Faculty of Dentistry and the Toronto General Hospital Department of Surgery.

Dr. Locke was the one dental anesthesiologist invited to participate when a group of ten Canadian anesthesiologists spent six weeks learning acupuncture analgesia techniques, at the invitation of the Canadian and Chinese governments.

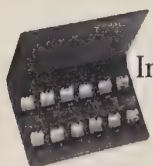
The stress of the course was on learning not just observing. The intention is that Dr. Locke will be making his new-found skills available across Canada at the dental school level, as well as lecturing as he will do at the CDA National Convention.

What acupuncture portends for the future is too early to say, however the group was quoted in the Toronto Globe and Mail recently as saying, "What we've seen is enough to confirm the view that acupuncture is potentially the most important contribution that China has made to science."



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DES NOUVEAUX AMÉNAGEMENTS RÉALISÉS AU C.H.U.L.

Jeudi 30 mai, en présence de M. Claude Forget, ministre des Affaires Sociales, Larkin Kerwin, recteur de l'Université Laval, Wilbrod Bherer, président du Conseil d'administration du C.H.U.L. et Robert Trempe, directeur général de l'enseignement collégial au ministère de l'Education, étaient inaugurés au Centre Hospitalier de l'Université Laval, les nouveaux locaux consacrés à la médecine dentaire. Cet important réaménagement qui comporte une addition de 5,000 pieds carrés, au coût de \$450,000, est réalisé grâce à une subvention du ministère des Affaires Sociales. Il permettra à la fois d'assurer des soins dentaires hospitaliers plus complets à la clientèle de l'hôpital, et d'apporter une importante contribution à l'enseignement de la médecine dentaire, ce qui est bien dans la vocation du

C.H.U.L. En effet, les professeurs de l'Ecole de médecine dentaire de l'Université Laval peuvent, chacun dans leur domaine, pratiquer leur spécialité de façon régulière dans les nouveaux locaux, ce qui est de nature à faciliter l'enseignement dentaire hospitalier. Les Drs Paul Simard, directeur de l'Ecole de médecine dentaire et Jacques Dufour, chef du Département de médecine dentaire du C.H.U.L. et professeur à l'Ecole de médecine dentaire sont les responsables de ce projet.

Par ailleurs, les nouveaux aménagements sont prévus pour assurer la formation clinique des hygiénistes dentaires qui poursuivent leurs études au Cégep François-Xavier Garneau. Ce enseignement qui est sous la responsabilité du Cégep sera

coordonné par une hygiéniste dentaire.

En attendant la rentrée de septembre, les locaux destinés aux hygiénistes dentaires seront utilisés par la clinique d'été tenue par les étudiants de deuxième année de l'Ecole de médecine dentaire. Cette clinique, dont l'accès est gratuit, vise à la prévention et à la promotion de l'hygiène dentaire auprès de la population en général et particulièrement de certains groupes d'handicapés. Ceci est rendu possible grâce à une subvention du ministère des Affaires Sociales. Ajoutons qu'une partie des nouveaux locaux sera affectée aux internes et résidents déplacés par l'aménagement de l'unité de médecine familiale et l'agrandissement des consultations externes.

CDA Congrès National du 6 au Oct.

LES TRAVELLERS VISITERONT LES DENTISTES

Le programme de divertissement prévu pour la soirée d'ouverture du Congrès national de l'ADC présentera en vedette l'ensemble vocal et instrumental de renommée internationale "The Travellers". Ce groupe torontois versatile constitue un choix heureux pour l'évènement dentaire de l'année, puisque son chef et banjoïste Jerry Gray est aussi un dentiste pratiquant de Toronto. Les Travellers ont sans doute vécu une expérience prémonitoire particulière quand ils ont contribué à la préparation et à l'enregistrement de "Murphy the Molar", un commercial pour la télévision, à la demande du Ministère de la santé de l'Ontario.

En plus des "Travellers", les organisateurs ont prévu d'autres divertissements. Les délégués n'auront à encourir aucun déboursé, sauf pour les rafraîchissements. Tous les délégués au Congrès et leurs invités sont les bienvenus. Dans l'esprit des organisateurs, venez "tel que vous êtes" profiter d'une bonne soirée de plaisir et d'agrément.

Jerry Gray, dentiste et Traveller, à la maison avec sa famille.



CHANGEMENTS FÉDÉRAUX AU SUJET DE LA POLITIQUE DE LA SCIENCE

Le discours du trône de la dernière session a annoncé l'intention du gouvernement de consolider le Ministère d'Etat des sciences et de la technologie afin de garantir l'utilisation plus efficace des ressources humaines et des activités scientifiques, dans la poursuite des objectifs nationaux canadiens. Les lois proposées affecteront le Conseil de recherches médicales (CRM) qui a fourni traditionnellement des subventions financières à la recherche en dentisterie ainsi qu'en médecine et en pharmacologie.

L'appui financier du Conseil national de recherches a pris normalement la forme de subventions et de bourses universitaires pour la formation postdoctorale. Le Conseil accorde parfois un salaire dans les universités à un nombre limité de chercheurs de carrière, hautement qualifiés. Par exemple, en 1973, le CRM a accordé des subventions pour un montant de \$37 millions et demi.

Les propositions gouvernementales concernant le CRM tiennent compte du fait que le CRM, comme le CNR, doivent envisager un accroissement dans le domaine des recherches interdisciplinaires. Afin de remplir plus adéquatement les objectifs du programme scientifique fédéral, le gouvernement propose que les procédés adoptés par le CRM pour octroyer des subventions, soient coordonnés à ceux des autres Conseils, par l'intermédiaire d'un Comité de coordination interconseil.

Deux nouveaux conseils seront créés à partir du CNR et du Conseil canadien. Les nouveaux conseils porteront les noms de Conseil de recherches en sci-

ences sociales et en humanités et Conseil de recherches en sciences naturelles. De son côté, le Conseil national de recherches, tout en renonçant à la tâche de distribuer des octrois, continuera de fournir, par le truchement de ses laboratoires et d'autres activités, un potentiel de recherches et une source d'expertise d'ordre général dans le domaine des sciences naturelles et de la technologie. Le Conseil des sciences, qui a surtout agi comme conseiller auprès du gouvernement, doit devenir un organisme plus national, accordant une plus grande attention à son rôle d'information publique. Madame Jeanne Sauvé, ministre d'état aux sciences et à la technologie, a déclaré que les changements mentionnés dans le discours du trône sont principalement fonctionnels et visent à mettre en oeuvre plus efficacement les possibilités scientifiques canadiennes, en main d'oeuvre et en ressources.

"Il est inévitable, a-t-elle déclaré, que toute modification apportée dans les organismes qui existent depuis longtemps, soit considérée, par certaines personnes, comme une critique de ces mêmes organismes. Des critiques de ce genre ne font pas partie de nos intentions et elles sont totalement injustifiées. Les organismes impliqués par les modifications proposées, plus spécialement le CNR, le Conseil canadien, le Conseil de recherches de la défense et le Conseil des sciences, qui se sont imposés hautement à l'estime publique, le CNR en particulier, ont le mérite d'avoir assumé la responsabilité d'encourager et d'appuyer le développement du niveau élevé actuel de la compétence scientifique au Canada."

La douleur dentaire

Le docteur Miet Kamienski, président du programme scientifique du Congrès de l'ADC, est enthousiasmé par le projet du docteur George Beagrie de l'Université de Toronto, qui organise une réunion-débat sur "La douleur dentaire, son origine et sa répression". On sait que le docteur Beagrie organisa un symposium remarquable sur "La troisième molaire" au Congrès de Vancouver, l'an dernier.

Trois excellents cliniciens, dont le docteur James K. Avery, professeur d'histologie buccale et de dentisterie à l'Ecole de dentisterie de l'Université de Michigan, ont déjà accepté d'y participer. Le docteur Avery est actuellement président de l'Association internationale de recherches dentaires. Il sera accompagné du docteur France Greenwood, adjoint à la recherche de la Section des sciences biologiques de l'Université de Toronto et Barry Sessle, professeur adjoint de dentisterie et assistant professeur de physiologie, aussi de l'Université de Toronto.

Régime d'épargne retraite

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 mai, 1974:

Fonds avec garantie \$10.912;

Fonds à revenu fixe \$14.023;

Fonds d'actions ordinaires \$26.913.

L'avoir total (valeur marchande) du régime se montait à \$17,120,543.48.

Au cours du mois précédent, les transactions ont été les suivantes: achat, 25,657 units Classified Fund, \$200,000 Bank of Nova Scotia note, \$480,000 Royal Trust GIR, 1,600 actions Noranda Mines, \$200,000 Aluminum Company of Canada note, \$300,000 Ford Motor Credit Co. note. Vente, \$400,000 Ford Motor Credit Co. note, \$200,000 City Corp. Financial Service note, \$480,000 Royal Trust GIR.

Pour de plus amples renseignements, veuillez écrire à: CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto, Ont. M54 2P1.

PRACTICE BRIEFS

Surgical removal of deep periodontal pockets indicated in many cases

Dental scientists at the University of Minnesota say their recent studies on the occurrence of hydrogen sulfide gas (H_2S) in the mouth indicate that, in many cases, until gas-producing bacteria can be controlled by some other means, the best available treatment for deep periodontal pockets is surgical removal, rather than scraping and cleaning.

The investigators, grantees of the National Institute of Dental Research, Bethesda, Maryland, also found that periodontal pockets more than 2mm in depth, located between the teeth and supporting gingival tissue, contain considerably more gas than shallow pockets.

Drs. Allen Horowitz and Lars A.E. Folke used small strips of filter paper impregnated with lead acetate as gas indicators. They slipped the strips into 16 crevices beside selected teeth located in all four quadrants of the mouth. Discoloration of the strips after 30 minutes indicated that gas was present, and the extent of discoloration was some indication of the amount of gas. Half of the subjects had healthy

gingiva with no visible evidence of periodontal disease. Their periodontal pockets were no more than 2mm deep.

The experimental group had clinically apparent periodontal disease and numerous pockets 4mm or more in depth. After a professional cleaning, all subjects were required to brush their teeth daily on only one side for a week. Then the filter paper strips were inserted and analyzed.

Only 6 per cent of the sites in healthy subjects showed H_2S , most of them on the unbrushed side, whereas almost 90 per cent of the periodontally diseased sites produced discolored strips which were slightly more frequent on the brushed than on the unbrushed side.

Studies of saliva from periodontally diseased and healthy subjects showed that unstimulated, parotid saliva, whether cultured in or away from the presence of oxygen, generated no H_2S . However, whole saliva generated some gas, especially when oxygen was excluded. Adding plaque scraped from teeth to whole saliva, as might be expected, increased the amount of gas still further.

When H_2S was tested in patients before and at intervals after professional cleaning and scraping, gas production was greatly reduced for a short time, but returned to a high level in three days, and to the original level in one week.

Ten volunteers from the periodontally diseased group who had been treated surgically to remove pockets over 4mm deep were retested for H_2S six months after surgery. None of their restored crevices was over 2mm in depth, and only about 5 per cent of the filter paper strips were discolored; most of these from the unbrushed side of the mouth.

It appears that gas-producing bacteria thrive better in deeper pockets away from air, and that scraping merely disturbs them temporarily, but does not prevent the return of the problem as surgery does.

These studies were reported in the July 1973 issue of the *Journal of Periodontology*.

Dental care for adult patients with cerebral palsy

A monograph on "Dental Care for Adult Patients with Cerebral Palsy" has been published by United Cerebral Palsy of New York City Inc. and is now available to interested dentists for \$1.00 a copy.

The monograph was co-authored by Solomon N. Rosenstein, Professor of Dentistry, and Marvin B. King, Adjunct Assistant Professor of Dentistry,

Columbia University School of Dental and Oral Surgery. Their monograph demonstrates for the first time what favorable results are possible in restorative dentistry for the severely involved cerebral palsied adult.

For copies, write: Dental Guidance Council for Cerebral Palsy, 122 East 23rd Street, New York, N.Y. 10010.

DECADE OF DECAY

By Lloyd Percival

Reprinted from the August 1973 issue of the Sports & Fitness Instructor, a monthly newspaper published for persons interested in improving their personal fitness levels as well as for athletes, coaches and physical educators.

Editorial offices: 224 Yorkland Blvd., Willowdale, Ontario M2J 1R5.



“The average Canadian keeps fairly fit up to the age of 35 — or likes to think he/she does. After that comes the steady decline in physical prowess that leads us into middle age.”

Down to the bottom of the class all those who think these statements are true. Because they're not.

As a matter of fact men, and to a slightly lesser degree women, deteriorate physically between 25 and 35 more than in any other 10-year span of their lives. This is the period when the average person starts to become sedentary — his sports activities begin to fade as career, family and home take up more and more time and interest.

Research at the Fitness Institute in Toronto indicates that fitness levels begin to drop dramatically around the 30-year bracket. The process actually starts earlier — in the early 20s — but doesn't show up clearly until the late 20s and early 30s. From then on there is a sustained but far less dramatic drop.

Test results

This situation was uncovered by comparing test results of various age categories of people who came to the Fitness Institute for programs.

The two most important physiological changes noted were an increase in the fat content of the body and a decrease in the maximum oxygen uptake.

The latter is the ability to take in and utilize oxygen during work, and is generally considered the single most important component of fitness.

Also noted were: decreased strength and muscle endurance; heightened tension; defects in posture; decreased efficiency of the heart/circulatory system; decreased flexibility.

Percentages

Here are some percentage figures based on this research. The comparison is between fitness levels established by the average individual at age 18, and persons age 30 — the midline in the 25-35 category — who were tested at the Institute:

VO ₂	27% increase
Fat	50% increase
Flexibility	21% decrease
Strength	14% decrease
Heart performance	24% decrease
Posture (observable problems)	27% increase

These findings concur with a recent statement by the Canadian Medical Association that the average Canadian male was physiologically middle-aged by 35 due to increasingly sedentary living pattern.

Many medical experts are of the opinion that it is what a person does or does not do during the years between 25 and 35 which determines his health profile in later years. It is during these years, at least according to data compiled by the Fitness Institute, that the physiological status of the average person begins to set him up for future health problems.

When he reaches his 20s the average person is in relatively good shape. But when he decreases his physical activity he begins the sedentary slide which makes him more prone to develop heart/circulatory ailments, nervous and emotional disease and structural problems such as discs.

It was also noted in the Fitness Institute study that those who had managed to get through the dangerous decade (25 to 30) without becoming sedentary reported far fewer health problems, had less tension, were much leaner and had a higher morale.

One of the reasons the average Canadian becomes so inactive once he gets into his mid-20s is that at school his physical activities have been strongly related to competitive games which are rarely played by the average person past the age of 18-20. These include hockey, football, basketball, track and field, wrestling and lacrosse.

Carryover

The more apparent need is to include

more of the carryover games such as tennis, golf and badminton and to emphasize the teaching of exercise habits in our physical education programs. It was noted in the Fitness Institute study that those who had played tennis or who had been active swimmers during their youth tended to continue these activities, at least on a moderate scale, during the decade of decay. As a result their test results were superior to those who had concentrated on football, hockey or basketball while at high school or university.

The Institute studied individuals who had become inactive during their early and mid-20s and found that these people had noticed that they were getting a little fat, losing their early pep and generally getting out of shape within a year of discontinuing their physical activity.

Once the late 30s and early 40s are reached, the average Canadian begins to make some sort of effort to control weight or get more exercise — usually on the advice of his physician who has

detected rising blood pressure, increased tension, advancing obesity and a heart/circulatory system that is not what it once was.

It is interesting to note that those who had been sedentary through the dangerous decade showed definite signs of developing the “high risk” factors which are of such interest to insurance companies: elevated blood pressure; higher than desirable blood cholesterol and triglyceride levels; obesity; emotional instability.

Warning

This was not true for those who had been even reasonably active during these years.

The warning is clear: if you are in the dangerous decade or approaching it, start now to increase your physical activity. If you do not you are laying down a pattern of physiological deterioration which might very well mean your future years will not be as healthy, productive or enjoyable as they should be.





INDICATIONS: Carbocaine (brand of mepivacaine) is indicated for the production of local anesthesia for dental procedures by infiltration injection or nerve block.

CONTRAINDICATIONS: Carbocaine is contraindicated in patients with a known hypersensitivity to the amide type local anesthetics or to methylparaben which is added to the multiple dose vial solutions.

WARNINGS: RESUSCITATIVE EQUIPMENT AND DRUGS SHOULD BE IMMEDIATELY AVAILABLE WHEN ANY LOCAL ANESTHETIC IS USED.

Usage in Pregnancy: Safe use of Carbocaine has not been established with respect to adverse effects on fetal development. Careful consideration should be given to this fact before administration during pregnancy.

Solutions containing a vasoconstrictor, particularly epinephrine or norepinephrine, should be used with extreme caution in patients receiving antidepressants of the triptyline or imipramine types or MAO inhibitors

because a severe prolonged hypertension may occur.

PRECAUTIONS: The safety and effectiveness of Carbocaine depend upon proper dosage, correct technique, adequate precautions, and readiness for emergencies.

The lowest dose that results in effective anesthesia should be used to avoid high plasma levels and serious undesirable systemic side effects. Injection of repeated doses of Carbocaine may cause significant increases in blood levels with each repeated dose due to slow accumulation of the drug or its metabolites, or due to slow metabolic degradation.

Tolerance varies with the status of the patient. Debilitated, elderly patients, acutely ill patients, and children should be given reduced doses commensurate with their age and physical status.

Solutions containing a vasoconstrictor should be used cautiously in the presence of diseases which may adversely affect the patient's cardiovascular system. In persons

with known drug sensitivities or allergies Carbocaine should be used cautiously.

Serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients containing or following the administration of chloroform, cyclopropane, trichloroethylene, or other related anesthetics.

ADVERSE REACTIONS: Adverse reactions result from plasma levels due to excessive dosage, rapid absorption, or inadvertent intravascular injection. Hypersensitivity, idiosyncrasy, or diminished tolerance may also cause reactions. Reactions due to overdosage (high plasma levels) are systemic and involve the central nervous system and the cardiovascular system.

Reactions involving the central nervous system are characterized by excitation and/or depression: nervousness, dizziness, blurred vision, or tremors may be followed by drowsiness, convulsions, unconsciousness, and possibly respiratory arrest.

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actions involving the cardiovascular system include depression of the myocardium, hypotension, bradycardia, even cardiac arrest. Treatment of a patient with toxic manifestations consists of maintaining an airway and supporting ventilation using oxygen, and assisted, or controlled respiration as required. Supportive therapy of the cardiovascular system consists of using vasopressors, usually epinephrine. Convulsions may be controlled by use of oxygen. If convulsions persist, the intravenous administration in small increments of an ultra short-acting barbiturate (i.e., thiopental, thiamylal) may be used. If these are not available, a short-acting barbiturate (secobarbital, barbitol) may be used. Intravenous barbiturates should only be used by those familiar with their use. Allergic reactions are characterized by cutaneous manifestations of delayed onset, or urticaria, edema, and other manifestations of allergy. The detection of sensitivity by skin testing is of doubtful value.

DOSAGE AND ADMINISTRATION: As with all local anesthetics the dose varies and depends upon the area to be anesthetized, vascularity of the tissues, individual tolerance and the technique of anesthesia. The lowest dose needed to provide effective anesthesia should be administered. For specific techniques and procedures refer to standard dental manuals and textbooks.

For infiltration and block injections in the upper or lower jaw the average dose of 1 cartridge will usually suffice. Each cartridge contains 1.8 ml. (36 mg. of 2% or 54 mg. of 3%). This dose may be doubled if necessary to effect anesthesia. The maximum dose should not exceed 3.6 mg. per pound of body weight.

Any unused portion of a cartridge should be discarded.
HOW SUPPLIED: Carbocaine (brand of mepivacaine) HCl 3% without vasoconstrictor—each ml. contains: Carbocaine HCl, 30.0 mg.; sodium chloride 3.0 mg.; and water for injection. Methylparaben 1.0 mg. is added to the

solution and pH is adjusted with sodium hydroxide or hydrochloric acid in multiple dose vials.

Carbocaine HCl 2% with Neo-Cobefrin (brand of levonordefrin) 1:20,000—each ml. contains: Carbocaine HCl 20.0 mg.; Neo-Cobefrin, 0.05 mg.; sodium chloride 4.0 mg.; acetone sodium bisulfite, not more than 2.0 mg.; and water for injection. Methylparaben 1.0 mg. and sodium lactate 1.0 mg. are added to the solution and the pH is adjusted with sodium hydroxide or hydrochloric acid in multiple dose vials.

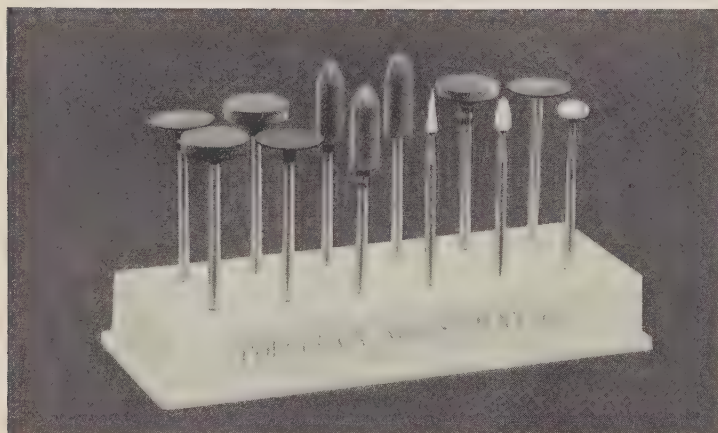
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Fluoride uptake from topical sodium fluoride varnish measured by an *in vivo* enamel biopsy

J.W. Stamm, DDS, MScD, DDPH
Montreal

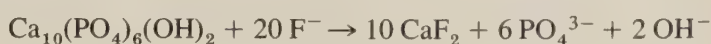
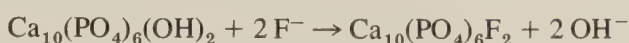
A topical sodium fluoride varnish was applied to right or left maxillary teeth in 35 subjects. The untreated side served as the control. After five weeks, the outer 8-12 μm layer of enamel was removed by an *in vivo* enamel biopsy of both the treatment and the control teeth. The biopsied material was analyzed for fluoride concentration. The results of the analyses indicated that the outer enamel of teeth treated with the fluoride varnish contained a mean fluoride level of 1,203 ppm while the mean fluoride level in the controls was 612 ppm. These results suggest that topical fluoride varnish merits being employed in a clinical field trial to assess its effectiveness in caries prevention.

L'étude comportait l'application topique de vernis contenant du fluorure de sodium sur les dents du côté droit ou gauche du maxillaire de 35 sujets. Cinq semaines après l'application, on enleva une couche externe de 8 à 12 μm d'émail par une biopsie *in vivo* de l'émail des dents sous traitement et des dents témoins. Les échantillons provenant de la biopsie furent soumis à l'analyse afin de déterminer la concentration de fluorure. Les résultats indiquent que l'émail extérieur des dents traitées avec le vernis contenant le fluorure, renfermait une proportion moyenne de 1,203 ppm, alors que la proportion moyenne des dents témoins ne contenait que 612 ppm. Ces résultats laissent entendre que l'application topique de vernis contenant du fluorure est justifiée aux fins de contrôler cliniquement son efficacité pour prévenir les caries.

The objective of this clinical experiment was to assess the fluoride content of human tooth enamel five weeks after a single treatment with a recently developed topical fluoride varnish. The measurement of fluoride uptake by means of an *in vivo* enamel biopsy may give an indirect indication of the agent's cariostatic ability.

It has been known since 1938 that the prevalence of dental caries in humans is diminished by increased levels of fluoride in the enamel. The actual relationship between the amount of fluoride incorporated and the resultant degree of cariostatic effect is not firmly established.¹ However, the assumption that the effectiveness of fluoride agents is related to their deposition in the outer enamel is supported by two clinical studies which assessed both the enamel fluoride levels and the caries increments in the same subjects following topical fluoride therapy.^{2,3} In any case, since its introduction by Knutson and Armstrong in 1943,⁴ topical fluoride has continued to be the second most effective agent, exceeded only by fluoridated drinking water, in its ability to prevent tooth decay.

The interaction between fluoride and human enamel is complex and not yet fully clarified. Generally, it is thought that one of two reactions takes place between the fluoride and the hydroxyapatite:



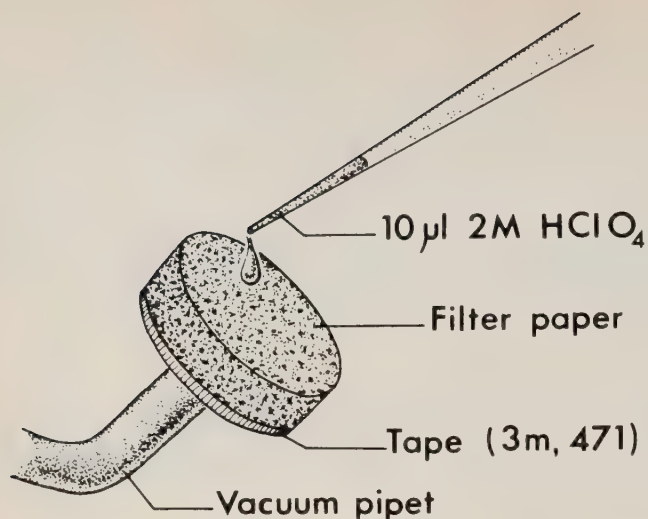


Fig 1 Filter paper disc receiving perchloric acid in preparation for enamel biopsy.

These reactions are modified by several factors such as the concentration of the fluoride ion, the pH of the agent being applied, and the presence of other ions in the solution. For example, at the concentrations of fluoride found in fluoridated water (1 ppm), the first reaction is greatly preferred, while at high concentrations of fluoride, or in the presence of an acidic environment, the second reaction is more dominant. The addition of phosphates to the reaction results in increased fluorapatite ($\text{Ca}_{10}(\text{PO}_4)_6\text{F}_2$) formation.

Most topical fluoride agents have a fluoride ion concentration of between 10,000 and 20,000 ppm which causes the second reaction to predominate, while the first reaction, though more beneficial to the tooth, proceeds at a far slower rate. Hence, topical fluoride application results in a deposition of surface crystals, including calcium fluoride. These crystals are rather rapidly lost from the tooth following application of the agent. Indeed, up to two-thirds of the fluoride acquired immediately after treatment is lost during the succeeding two weeks.⁵⁻⁷ The portion of the fluoride more firmly incorporated by the tooth in the form of fluorapatite is largely restricted to the outer 10-30 μm of enamel. In short, the objective of topical fluoride therapy is to significantly elevate the fluoride concentration in this thin outer layer of the tooth.

One way of improving a fluoride agent's ability to increase the fluoride level in enamel is to prevent the washing off of the agent by saliva and other liquids, thereby increasing the agent's reaction time with enamel. Richardson⁸ has shown that lengthening the time interval between the fluoride treatment and the commencement of the washing action significantly increases fluoride uptake. Usually a clinician tries to diminish the washing action by instructing his patient to refrain from drinking or rinsing for 30 minutes following topical fluoride application. However, the effects of saliva cannot be controlled in this way. Richardson,⁸ therefore applied a waterproof coating on teeth immediately after the fluoride application. The findings indicated that the fixation of fluoride to enamel by agents such as polyoxyethylene soya

amine and silicone grease was effective in increasing fluoride uptake by enamel.

A major drawback of Richardson's technique was the complexity of the total procedure. A recently developed material which combines the ease of a single application with the advantage of extended (approximately 12 hours) fluoride fixation on the tooth is a sodium fluoride containing varnish (Duraphat, M. Woelm Co., Germany) which is applied to freshly cleaned teeth like the more conventional fluoride solutions.⁹ Once applied to the tooth, the varnish sets, even on contact with moisture, and remains on the tooth surface where the material slowly releases its fluoride which in turn reacts with the enamel. The fluoride containing topical varnish has undergone preliminary field tests for caries prevention.^{10,11}

Procedure and materials

Thirty-five dental students served as subjects. Using a table of random numbers, the subject's right or left maxillary arch was selected for treatment with the fluoride varnish; the untreated side served as the control. The quadrant designated for treatment received a prophylaxis with dental floss, non-fluoridated zirconium silicate paste and prophylaxis brushes. This procedure was simply intended to remove exogenous materials from the clinical crown. No attempt was made to achieve a polish on the enamel surface. Following a vigorous rinse of the oral cavity, the teeth in the selected quadrant were dried and the fluoride varnish was applied with a cotton swab. Warm air was blown for a few seconds on to the coated teeth and the patient was instructed not to brush his teeth for the next 12 hours. No other instructions were given to the patient so that the normal and usual patterns of home care would be followed.

After an elapsed time of five weeks, the patient was recalled and received a light prophylaxis on both sides of the maxillary arch. Homologous bicuspid teeth were isolated and dried, and were then biopsied on the buccal surfaces using a slight modification of the method described by Hotz et al.¹²

The *in vivo* enamel biopsy is a procedure which removes, using the acid etching principle, approximately 8-12 μm of enamel from a circular area 3 mm in diameter. Following cleaning and drying of the selected tooth, a piece of impermeable tape (No 471, Minnesota Mining and Manufacturing,⁶ USA) with a 3 mm punched hole is applied so that the buccal surface of the tooth is covered except for the 3 mm circular area which remains exposed. A 3 mm disc of filter paper (1 mm thick), also backed by impermeable tape, is soaked in 10 microlitres of 2 M perchloric acid (Fig 1). Using a vacuum pipette as a holder, the acid containing disc is applied to the exposed area of the tooth for seven seconds (Fig 2). During this period, the acid is agitated by exerting gentle intermittent pressure on the disc with the pipette tip. The disc is then transferred to a test tube containing 1 ml of diluent comprised of 0.5 ml double distilled water plus 0.5 ml TISAB (Orion Research Inc., USA). An

identical, dry second disc is applied to the biopsied area to absorb any remaining sample and then transferred to the same test tube.

The diluent or test solution was analyzed for fluoride and calcium content. The fluoride analysis was done using the ion-specific electrode and model 801 pH/mV meter (Orion Research Inc., USA). The calcium analysis was carried out by atomic absorption spectrophotometry. The steps of the biopsy procedure as well as the analyses for fluoride and calcium were carried out on extracted teeth *in vitro* to ensure satisfactory and consistent results prior to the *in vivo* phase.

The total weight of the enamel biopsied is calculated on the basis that the calcium content of enamel is 37 per cent.¹³ Given that an area of radius 1.5 mm was biopsied and that the specific gravity of enamel is 2.95,¹⁴ the depth of the biopsy may be derived as

$$\text{depth } (\mu\text{m}) = \frac{\text{enamel weight } (\mu\text{g})}{2.95 \times \text{area } (\text{mm}^2)}$$

With this information, the fluoride concentration of enamel was determined. Because the experimental design called for homologous teeth, the obtained data were statistically treated by paired t-tests.

Results

The topical fluoride varnish was applied to the left maxillary teeth in 17 cases and the right maxillary teeth in 18 cases. The respective homologues served as controls.

Biopsy depth — The fluoride gradient in enamel requires that the biopsy depth in sample pairs should be of uniform depth. In the present study complete uniformity of sampling depth was not attained though the precision of the technique, as judged by standard errors, compares favourably with that of the technique's developers. In any case, the t-test in Table 1 indicates that the mean difference in biopsy depth between the treatment and control teeth was not statistically significant.

Fluoride concentration — Table 2 gives a frequency distribution of the differences in fluoride concentration in the outer enamel between treated and control bicuspid. These differences represent the enamel fluoride increments five

Biopsy depth in homologous bicuspid

Table 1

Group	N	Mean depth (μm)	S.E.
Treatment	35	10.91	0.6
Control	35	12.28	0.7
Paired t-test:			
$\bar{d} = -1.37$		$S\bar{d} = 0.75$	$t = -1.82^{\text{NS}}$ df = 34

Pressure sensitive impermeable tape (3M, 471)

Vacuum pipet

Filter paper disc saturated with 10 μl acid

Enamel

Fig 2 Schematic illustration of the *in vivo* enamel biopsy procedure.

weeks after topical treatment with the fluoride varnish. It is obvious from the variation in these increments that subjects differed greatly in their ability to incorporate fluoride into the outer 10-12 μm of enamel. This finding confirms the work of Heifetz et al¹⁵ who, in testing four different fluoride agents on a total of 40 subjects found the range of the fluoride increments in the outer 5 μm of enamel to vary between -320 to 555 ppm, one week after application of the agent.

The evaluation of the fluoride varnish's ability to raise the enamel fluoride concentration is given in Table 3. It is evident that five weeks after the topical application, the mean fluoride concentration in the outer 10-12 μm of enamel on treated teeth was almost double that on control teeth. The mean increase of 591 ppm was statistically significant ($P < 0.01$). While the mean biopsy depth of the control teeth was slightly greater than that of the treated teeth, this small difference was insufficient in relation to the mean depths to affect the observed increment in fluoride concentration significantly.

Discussion

In vivo fluoride uptake tests, like that described in this article, are not substitutes for properly designed clinical field

Frequency classification of fluoride concentration differences between homologous bicuspid

Table 2

Difference in fluoride concentrations ppm	Frequency
-200 to -1	2
0 to 199	3
200 to 399	6
400 to 599	10
600 to 799	8
800 to 999	1
1,000 to 1,199	0
1,200 to 1,399	3
1,400 to 1,599	1
1,600 to 1,799	0
1,800 to 1,999	1
Mean 591	35

Fluoride concentrations in homologous bicuspid five weeks after fluoride varnish treatment

Table 3

Group	N	Mean biopsy depth μm	Mean fluoride concentration ppm	S.E.
Treatment	35	10.9	1,203	103.8
Control	35	12.3	612	57.1

Paired t-test:

$$\bar{d} = 591 \quad S\bar{d} = 71.4 \quad t = 8.27^{**} \quad df = 34$$

trials which measure caries prevention over a period of two years or more. Uptake tests may, however, serve as a screening mechanism for newly developed cariostatic agents. When further *in vivo* uptake tests are correlated with clinical field trials, the information thus gained will give the uptake tests some limited predictive value in assessing caries inhibiting properties of various fluoride agents.

The question of biopsy depth and enamel integrity requires further investigation. In testing the technique on extracted teeth, the biopsy produced an even area of demineralization over the exposed circular area. This was confirmed by viewing the biopsied surfaces under a microscope with incident light. In the clinical setting it was possible to distinguish, with an explorer, a roughened area left on the subject's tooth by the etching procedure. However, the biopsied surface was visibly indistinguishable after the tooth was bathed *in vivo* by the saliva. Recently, Munksgaard and Bruun¹⁶ have expressed the view that enamel biopsies should not exceed $5\mu\text{m}$ for aesthetic and physiological reasons.

A question which also requires more study is how deep a biopsy should be to assess adequately fluoride uptake from topical fluorides. The early work by Darling¹⁷ seems to indicate that it is more than the outer $1-3\mu\text{m}$ layer of enamel which plays a critical role in the initial caries lesion. Indeed, Bergman and Lind¹⁸ have found that the surface layer of enamel overlying the zone of decalcification in incipient lesions, commonly known as white spot lesions, has a mean thickness of $40\mu\text{m}$. The importance of increasing the fluoride content throughout this surface layer has been stressed by Englander et al.¹⁹ Proceeding from the outer tooth surface to the dento-enamel junction, the fluoride concentration in untreated enamel is far from uniform. While the outer layer of the tooth has the highest fluoride concentration, this parameter declines sharply as subsurface layers are analyzed. Due to this lack of fluoride concentration uniformity in enamel, superficial surface analyses are usually not enough for a meaningful fluoride assessment. Furthermore, Mellberg²⁰ found no evidence that fluoride concentrations in the outer $1-3\mu\text{m}$ could reliably predict the concentrations at greater depths. He further suggested that, "analysis of deeper layers is most important when fluoride uptake at the surface is high." In the case of acid etch biopsy techniques, depth can be controlled by adjusting the length of time for acid-enamel contact. In the case of the biopsy techniques which are based on the abrasion principle,²¹ time and pressure can be varied to control the depth.

The topical fluoride varnish tested has several properties which require comment. That the varnish sets in the presence of moisture and adheres to the tooth for extended periods could be of considerable clinical significance. In particular it means that the question of a 30 second or four minute fluoride treatment is eliminated. The material is applied to clean, dry teeth and when the application is completed, the fluoride-enamel reaction persists during the ensuing hours.

The viscosity of topical fluoride varnish presents a potential problem. Unlike varnishes which are used as cavity liners, the fluoridated topical varnish has a consistency which resembles a thin fingernail lacquer. Thus the material's ability to penetrate the interproximal spaces must receive further examination. In spite of its viscosity, topical fluoride varnish appears promising for the prevention of cervical caries in the geriatric patient.

Patient acceptability of the varnish was good. In the present study, one subject mentioned the slightly brownish colour of the varnish film *in situ*. A second subject experienced gingival erythema on the second day after treatment.

Conclusions

1. The application of a single coating of topical sodium fluoride varnish effectively raised the fluoride content in outer enamel as measured *in vivo* five weeks after treatment.

2. Properly conducted clinical field trials are necessary to assess the caries preventive effect of topical fluoride varnish before such a material can be recommended for routine clinical use.

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BRITISH COLUMBIA — KAMLOOPS. Practice for sale. Large office, 100 sq. ft., including waiting room, private office, dark room, lab and three operatories, one equipped. In residential area of fast expanding city of British Columbia's southern interior. Ideal for one or two dentists. Good area for both summer and winter sports. Reply CDA Box No. 1324.

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MANITOBA — Steinbach. For sale, high gross practice 30 minutes from Winnipeg. Presently manned by myself and one associate. Only office in town of 6500. Four operatories (3 Spaceline, 1 Emba). Dentist owned building 2 years old. Write P.O. Box 297, Steinbach, Manitoba R0A 2A0.

MANITOBA — Selkirk. Office space suitable for a dentist available in rural medical centre, 25 miles from Winnipeg. Our centre now has 9 physicians, an optometrist and a pharmacy. Space will be developed to suit tenant, and if desired, equipment may be leased from us as well. Reply to Manager, Box 131, Selkirk, Manitoba.

ONTARIO — Kingston. Practice for sale or associate desired. Available immediately, a modern, preventive-oriented practice. Ideal location with excellent clientele; established 8 years. Two fully equipped operatories for four-handed dentistry. Terms completely negotiable. Owner returning to post-graduate studies. Reply Box 1368 or phone (613) 542-8627.

ONTARIO — West End Toronto. Fully equipped and furnished dental office for rent in modern medical clinic building, consisting of 4 operatories, nurse/receptionist station, private office and large waiting room. Central unit for gas analgesia fitted. Building fully air-conditioned, janitorial services provided, ample parking. Reply CDA Box No. 1227.

ONTARIO — Willowdale. Oral surgeon wanted to rent a completely equipped 2-op dental office in the mornings. All services and staff provided. High density area. Recovery room facilities possible. Reply CDA Box No. 1332.

ONTARIO — Madoc. (Highway #7, half way between Ottawa and Toronto.) Dental suite in modern Medical Centre. Contact: Vera Hill, (613) 473-4261 or Douglas Heard (613) 473-2305.

ONTARIO — Upper Ottawa Valley. Dentist to take over existing practice: a well established practice in a developing all year tourist region of Ontario. Modern office in a Medical Centre being shared with two family practitioners. Office is equipped with nitrous oxide sedation and person taking over has option to purchase equipment or supply own. There is a good collection rate and an exceptionally low overhead. Present owner wishes to take graduate studies. This is an extremely rewarding experience and opportunity for someone looking for a smaller community and all outdoor activities. Reply CDA Box No. 1401.

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SASKATCHEWAN — Meadow Lake. Dental office building 30' x 34', and equipment. Two operating rooms, lab, dark room etc. Lots of storage space. Room for two more operatories. No other dentist within 100 miles. Very busy practice. Town pop. 4000 and growing. Drawing area, another 12,000-15,000. Retiring because of age. Contact Peter I. Bayoff, D.D.S., Box 699, Meadow Lake, Saskatchewan, S0M 1V0.

ASSOCIATESHIPS AVAILABLE

ALBERTA — Edmonton. Associate wanted leading to partnership or purchase in very busy two-man preventive orientated practice. All phases of dentistry in new building with latest functional equipment. Reply CDA Box No. 1409.

BRITISH COLUMBIA — Salmon Arm. Full-time associate wanted for busy four-man group practice. Available Sept. 1st as one man leaves to return to postgraduate studies. Excellent terms will be arranged with partnership available. Call 832-6087 or write to Dr. G.D. Harle, Salmon Arm Dental Centre, Box 879, Salmon Arm, B.C. V0E 2T0.

BRITISH COLUMBIA — Merritt. Full-time associateship available with view to partnership at a later date if desired. Well established general practice in clinic with two other dentists and a hygienist. New clinic with eight operatories. No other dentists in community. A real opportunity to start in B.C. with a full patient load. Reply CDA Box No. 1410.

BRITISH COLUMBIA — Vancouver. Oral surgeon associate wanted with view to partnership. New building practice. Dr. A.J.L. Thomson, Suite 602, 2525 Willow Street, Vancouver 9, B.C.

BRITISH COLUMBIA — Revelstoke. Excellent associateship available, fully equipped Cox and Pelton & Crane equipment clinic, with education room and control program. Two months minimum. Excellent opportunity for future practice establishment in the area. Serious preventive dentist apply to: Box 2118, Revelstoke, B.C.

BRITISH COLUMBIA — Nanaimo. Orthodontist needed to share growing practice. Edgewise technique. New, modern office (1 year old). Must qualify for certification in British Columbia. Reply CDA Box No. 1408.

BRITISH COLUMBIA — White Rock. Full-time associate wanted in July for six-man clinic. Experienced man wanted with view to becoming a partner. Modern equipment in well established practice. Unlimited opportunity. Phone (604) 536-7606 or write White Rock Dental Offices, No. 300 - 1538 Foster Street, White Rock, B.C. V4B 3X8.

MANITOBA — Winnipeg. Associate for group practice. Preventive-oriented practice covers all facets of general dentistry. Well established, modern office. Direct inquiries to CDA Box 1407.

ONTARIO — Windsor. Associate desired in modern medical-dental centre. All phases of family dentistry with emphasis on prevention. Five sit-down OR's with a full-time hygienist. Reply: Dr. A. Kupsov, 1505 Prince Road, Windsor 10, Ontario. Tel: office, (519) 258-4371; home, (519) 969-0632.

ONTARIO — Ottawa. Associate required for busy general practice. East End. Apply: Dr. Laval Carrier, 2016 Ogilvie Road, Suite 42, Ottawa, Ontario K1J 7N9.

ONTARIO — London area. Wonderful opportunity to associate immediately and take over practice. No outlay. Health reasons. Call collect: (519) 527-1530 or reply CDA Box No. 1343.

QUÉBEC — Chibougamau. Le Dr Godefroy de Billy recherche un associé. Clinique dentaire situé à l'hôpital de Chibougamau. Adresse: Dr Godefroy de Billy, C.P. 280, Chibougamau, Québec.

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MANITOBA — Winnipeg. The Faculty of Dentistry of the University of Manitoba has recently completed a departmental reorganization. Applications are now invited for the headship of each of the following four departments:

- (a) Stomatology (Periodontology, Oral Surgery, Oral Medicine, Oral Diagnosis, Radiology)
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- (c) Preventive Dental Science (Orthodontics, Pediatric Dentistry, Biostatistics, Social and Preventive Dentistry, Dental Public Health, Professional Conduct)
- (d) Rehabilitative Dental Science (Operative Dentistry, Fixed Partial Denture Prosthesis, Removable and Partial Removable Denture Prosthesis, Dental Materials, Endodontics)

Rank and salary commensurate with qualifications and experience. Applicants should submit curriculum vitae, etc. by September 30, 1974 to the following address:

Office of the Dean
Faculty of Dentistry
University of Manitoba
780 Bannatyne Avenue
Winnipeg, Manitoba R3E 0W3

ONTARIO — Hamilton. Dental hygienist wanted immediately for full-time position in three preventive practices. Reply to Dr. G.K. Scott, 143 James Street, South, Suite 710, Hamilton, Ontario L8P 3A1.

ONTARIO — Ottawa. DENTISTS required for service in Labrador and northern Newfoundland. Please contact:

Mr. Douglas Heath
International Grenfell Association
Room 701, 88 Metcalfe Street
Ottawa, Ontario K1P 5L7

ONTARIO — Windsor. Dental Hygienist required for large preventive group practice (7 dentists) in new medical centre in Windsor. Two hygienist operatories and two preventive rooms. Salary and working conditions excellent. Please contact:

Dr. D.V. Allen
1011 Ouellette Ave.
Suite 502
Windsor, Ontario

Call collect (519) 254-1843.

QUEBEC — Montreal. Excellent opportunity for a dental hygienist in a modern periodontal practice. Position will consist of regular dental hygiene duties plus being in charge of patient education & preventive program. Top salary & excellent working conditions. Apply CDA Box No. 1395.

OPPORTUNITIES WANTED

BRITISH COLUMBIA — Victoria. Experienced dentist seeks full-time position in the Victoria, B.C. area. Available September 3. Reply CDA Box No. 1411.

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MICHIGAN — Dearborn. One Ultrason Prophylaxis Scaler 880, one Demonstrator Model Deluxe Ultrason Scaler (latest model), one Mark IV Ultrasonic Scaler. All carrying full one year warranty with C.S.A. approval. Reply C.D.A. Box No. 1412.

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For further information please contact:
Dr. Bob Currie,
450 Central Avenue, Suite 401,
London, Canada.
N6B 2E8.
Telephone 519-438-4749.

DENTAL HYGIENIST-THERAPIST

THE DEPARTMENT OF COLLEGES AND UNIVERSITIES AFFAIRS, Keewatin Community College, The Pas, Manitoba requires a Dental Hygienist-Therapist for the Diploma Program in Dental Auxiliary Education. A unique, challenging, and innovative Public Health Dental Auxiliary Program is offered at Keewatin Community College, and graduates of this program acquire sufficient background and skills to enable them to become employed by agencies providing Dental Care in Northern Communities. The incumbent will function as a member of a Dental Education Team. The duties will include: provide oral health care instruction to Public Health Dental Auxiliaries, which includes the cleaning, scaling, and polishing of teeth and other specified procedures, and work with the staff dental assistant in the instruction of prophylaxis, dental health education, laboratory techniques, and office procedures.

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WINNIPEG, MANITOBA
R3H 0J9**

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The successful applicant will serve a familiarization period as assistant to the present Executive Director, with possible succession upon his retirement.

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Applications with complete curriculum vitae, current photograph and expected benefits should be submitted to:

Box 1406
Journal of the Canadian Dental Association
234 St. George Street
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Closing date for applications is October 31, 1974.



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Pelton & Crane	IFC
Proctor & Gamble	467
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The Upjohn Company of Canada	482
S.S. White Company	479
Weil Dental Supplies Limited	470
Young & Biggin	471

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REGISTRATION

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ADC**

**CONGRES NATIONAL
CONVENTION**
TORONTO
OCT. 11, 12, 1974



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE

IMPORTANT: This form is to be completed by those desiring advance registration and accommodation in Toronto during the forthcoming convention. Please mail the complete form, and, where applicable, your cheque for \$50.00, to the CONVENTION BUREAU at the above address. **To receive your choice of accommodation, and first option on tickets to social events, register early! Preregistrations will not be accepted after the end of August, 1974.** After August 31, please make your accommodation

arrangements directly with the hotel of your choice, and register at the convention registration facilities in the Four Seasons Sheraton Hotel, upon your arrival. Ticket sales, major social events and commercial exhibits will also be at the Four Seasons Sheraton Hotel. The general scientific sessions will be at both the Four Seasons Sheraton and the Downtown Holiday Inn. The two hotels are quite close to one another, and each is the largest in its respective world wide hotel chain.

Please PRINT or TYPE requested information:

DATE: _____

NAME: _____ If wife attending, name: _____
 surname given names

ADDRESS: _____

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Specify: _____

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Please indicate first, second and third choice of hotel accommodation in column entitled Choices.

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☐ Accommodation not required

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☐ Suite (Specify Type)

ARRIVAL DATE _____

TIME _____

DEPARTURE DATE _____

TIME _____

NOTE: Hotels will not normally hold a room beyond 6 p.m. unless a later time is specified.

The registration fee for dentists is \$50.00. Dentists' wives may register without charge, as may exhibitors. Make your cheque payable to CDA National Conventions.

MANITOBA DENTAL CARE PROGRAM POSTPONED

Manitoba Health Minister Saul Miller has announced that the government's program for children will not likely start before September, despite the target date of August 1. Among the recommendations on implementation still to come from the various disciplines involved is the report on the first phase of the program from the Manitoba Dental Association.

COUNCIL ON RESEARCH MEETING

CDA Council on Research met June 13-14 at Digby Pines, N.S. immediately before the joint CDA/ACFD biennial Research and Education Conference. Among the business passed was the following:

- . A recommendation to the Executive Council to establish a small ad hoc committee to assist the dental profession in converting to the metric system. CDA now is in liaison with the federal Metric Commission.
- . Another recommendation to establish a standing Committee on Dental Therapeutics to receive, collate, review and disseminate information on drugs or other agents used for preventive or therapeutic purposes in dental practice. It has been suggested that the Committee be composed of a basic pharmacologist, clinical dental pharmacologist, a microbiologist, and one person each from preventive dentistry and oral medicine.

BOARD TO BE ASKED TO RECONSTITUTE COUNCIL ON RESEARCH

At their June meeting the Council on Research studied its original terms of reference and Council's role in procuring research funds, disseminating scientific knowledge and developing research personnel. In the belief that the Council, as constituted, had not been able to pursue these objectives, the Council has recommended to the Board of Governors that it be reconstituted under its existing name or as the National Council on Dental Health Research. The new Council should then have representation from the Medical Research Council and other national agencies interested in dental research, including the National Health Grants Agency plus representatives of dental researchers. The Council recommended that members be persons of authority and prestige who are able to influence the flow of research monies and the direction of dental research in Canada.

ONTARIO DENTISTS ELIGIBLE FOR JURY DUTY

Recent changes to the Ontario Juries Act makes a wide group of occupations, including dentists, eligible for jury duty and no longer automatically exempt. Still exempt are doctors, veterinarians, members of the Senate, House of Commons, the Legislature and occupations related to the courts.

Representation on the proposal was made by the Ontario Dental Association many months ago, on the basis that dentists would be glad to serve if all citizens were treated alike in the legislation, but that if any had exemptions, dentists had a highly valid claim.

With passage of the legislation, ODA president, M.D. Charendoff says, "This is a regrettable situation. The government has been short-sighted in not taking into account the obvious dislocations in service to the public and the economics of practice for the self-employed dentist."

NEW ALBERTA SLATE

The Alberta Dental Association has elected B.G. Saik as president, succeeding B.A. Low. After discussion, it was decided that the future executive committee of the Association should be composed of: the president, vice-president, administrative co-ordinator and past-president, along with the executive director. New officers, therefore, include: G.E. Utas, vice-president; J.S. Little, administrative co-ordinator and G.E. Decker, executive director.

B.C. HAS YOUNGEST PRESIDENT EVER

The B.C. College of Dental Surgeons has just elected its youngest ever president, in Robert Hicks of Vancouver. Dr. Hicks has been active in provincial dentistry including the vice-presidency last term. His fellow officers include: W.J. Froese, and R.T. Malpass as vice-presidents and R.J. Nelson, as treasurer.

CDA DELEGATES ATTEND FDI CONGRESS

Travelling to London, England, September 3-15, for the FDI Congress as delegates are: CDA president, J.E. Abra of Winnipeg; past-president, D.K. Peters of St. John's; and executive director, W.G. McIntosh. Alternates will be: H.R. MacLean Edmonton and Brig. Gen. L.G. Craigie, Ottawa and Murray Cornish, Toronto. Attending the business sessions as observers are: D.C. Smith, W.J. Spence and M.A. Kamienski, all of Toronto. George Beagrie, Toronto is also attending as an invited guest speaker.

The CDA delegation will not only be attending the business and scientific functions of the Congress, but promoting the FDI World Dental Congress to be held in Toronto in October, 1977.

AJOURNEMENT DU PROGRAMME DE SOINS DENTAIRE AU MANITOBA

Monsieur Saul Miller, ministre de la Santé du Manitoba, a révélé que le programme du gouvernement pour les enfants ne débutera point avant septembre, en dépit de la date fixée au 1er août pour son inauguration. Parmi les recommandations qui n'ont pas encore été soumises, touchant la mise en vigueur de la Loi, mentionnons le rapport relatif au premier stade du programme, que l'Association dentaire du Manitoba doit faire parvenir.

LA COLOMBIE-BRITANNIQUE POSSEDE LE PLUS JEUNE PRESIDENT

Le Collège des chirurgiens dentistes de la Colombie-Britannique vient d'élire le plus jeune président de son histoire. Il s'agit du docteur Robert Hicks de Vancouver. Le docteur Hicks a été très actif dans le domaine de la dentisterie sur le plan provincial. Il occupa, entre autres, la vice-présidence durant le terme qui vient de s'écouler. Ses collègues de l'exécutif comprennent les docteurs W.J. Froese et R.T. Malpass, en qualité de vice-présidents et le docteur R.J. Nelson, trésorier.

NOUVEAUX OFFICIERS EN ALBERTA

L'Association dentaire de l'Alberta a élu le docteur B.G. Saik président, pour succéder au docteur A.B. Low. Après discussion, il fut décidé que le futur Comité exécutif serait constitué d'un président, d'un vice-président, d'un coordonnateur administratif, du président sortant et du directeur de l'exécutif. A la suite de cette décision, les officiers suivants furent choisis: les docteurs G.E. Utas, vice-président, J.S. Little, coordonnateur administratif et G.E. Decker, directeur de l'exécutif.

LES DENTISTES ONTARIENS SERONT APPELES A REMPLIR LES FONCTIONS DE JURES

De récentes modifications à la Loi relative aux jurés englobent un éventail considérable d'occupations, y compris celles des dentistes, qui seront appelées à remplir les fonctions de jurés, dont ils ne seront plus exemptés automatiquement. Les médecins, les vétérinaires, les membres du sénat, de la Chambre des communes, de l'Assemblée législative et les personnes occupant des fonctions reliées à l'administration de la justice seront encore exemptés de cette obligation.

Il ya quelques mois, l'Association dentaire de l'Ontario entreprit des démarches relatives à ces modifications, à l'effet que les dentistes seraient heureux de remplir ces fonctions, à condition que tous les citoyens soient considérés sur le même pied par la Loi. Par ailleurs, dans l'éventualité où certaines occupations sont dispensées, les dentistes, de ce fait, seraient naturellement justifiés de réclamer le même privilège.

A la suite de l'adoption de la Loi, le président de l'Association dentaire de l'Ontario a déclaré: "Nous sommes en présence d'une situation regrettable. Le gouvernement a fait preuve d'un manque de clairvoyance en ne tenant aucun compte de la désorganisation manifeste des services au public et de l'aspect pécuniaire des conditions particulières de la pratique professionnelle des dentistes, qui exercent à leur propre compte."

REUNION DU CONSEIL DE RECHERCHES

Le Conseil de recherches de l'ADC s'est réuni les 13 et 14 juin derniers à Digby Pines, N.E., immédiatement avant la tenue de la Conférence biennale conjointe ADC/ACFD sur l'enseignement et la recherche. Parmi les décisions prises sur les questions à l'ordre du jour, citons:

- Une recommandation soumise au Conseil exécutif visant à constituer un comité spécial de quelques membres, destiné à aider la profession dentaire à convertir le système métrique. A ce sujet, l'ADC est maintenant en contact avec la Commission fédérale relative au système métrique.
- Une autre recommandation demande la formation d'une Commission permanente sur la thérapeutique dentaire, ayant pour mission de recueillir, de compiler, de faire l'étude critique et de diffuser les renseignements se rapportant aux médicaments et aux agents utilisés à des fins préventives ou thérapeutiques, en pratique dentaire. Il a été proposé que le Comité soit constitué d'un pharmacologiste; d'un pharmacologiste en clinique dentaire; d'un microbiologiste, d'un représentant de la dentisterie préventive et d'un autre de la médecine buccale.

LE BUREAU DES GOUVERNEURS DEVRA RECONSTITUER LE CONSEIL DES RECHERCHES

A l'occasion de leur réunion de juin dernier, les membres du Conseil des recherches ont étudié les termes de leur mandat original et le rôle du Conseil dans la tâche de recueillir les fonds nécessaires pour la recherche, celle de diffuser les connaissances scientifiques et de former le personnel responsable de la recherche. Considérant que le Conseil, tel que constitué actuellement, s'est montré incapable de réaliser ces objectifs, les membres ont recommandé au Bureau des gouverneurs de le reconstituer sous le nom qu'il porte présentement ou sous l'appellation de Conseil national des recherches en santé dentaire. Le nouveau Conseil devrait alors compter des représentants du Conseil des recherches médicales et des autres organismes nationaux intéressés à la recherche dentaire, y compris le programme national de subventions à l'hygiène, en plus de représentants des chercheurs engagés dans les recherches dentaires. Le Conseil a recommandé que les membres comprennent des personnes dont l'autorité et le prestige soient reconnus et qui soient susceptibles d'influencer l'attribution des subventions et l'orientation des recherches dentaires au Canada.

UNE DELEGATION DE L'ADC VA ASSISTER AU CONGRES DU FDI

En route pour Londres, Angleterre, en tant que délégués au Congrès de la Fédération dentaire internationale qui aura lieu du 3 au 15 septembre prochains: J.E. Abra, Winnipeg, président de l'ADC; D.K. Peters, St. John's, ancien président; et W.G. McIntosh, secrétaire général de l'ADC. Agiront comme remplaçants: H.R. MacLean, Edmonton; L.G. Craigie, Ottawa, brigadier-général; et Murray Cornish, Toronto. Les délégués suivants assisteront à la conférence en qualité d'observateurs à la session d'affaires: D.C. Smith, W.J. Spence et M.A. Kamienski, tous de Toronto. De plus, George Beagrie, Toronto, sera conférencier à cette occasion.

Les délégués de l'ADC auront pour mission d'assister aux sessions d'affaires et scientifiques et aussi de promouvoir les intérêts du Congrès international du FDI qui sera tenu à Toronto en octobre 1977.

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Normal home usage—children—J.A.D.A. 72:408, 1966



Normal home usage—children—J. Canad. Dent. Assn. 36:262, 1970



Normal home usage—children—J. Dent. Child. 37:501, 1970



Normal home usage—children—J. Canad. Dent. Assn. 38:35, 1972



Normal home usage—children—J. Canad. Dent. Assn. 38:155, 1972



Fluoridated water—children—J. Dent. Child. 38:211, 1971



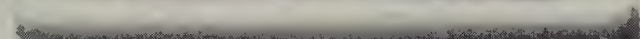
Supervised brushing—children—J.A.D.A. 58:42, 1959



Supervised brushing—children—J.A.D.A. 64:217, 1962



Supervised brushing—children—J.A.D.A. 65:482, 1962



SnF₂ topical—children—J. Dent. Child. 28:5, 1961



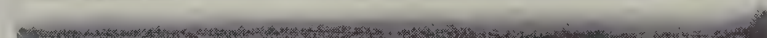
SnF₂ topical and prophylaxis—children—J.A.D.A. 70:914, 1965



SnF₂ topical and prophylaxis—children—J.A.D.A. 72:392, 1966



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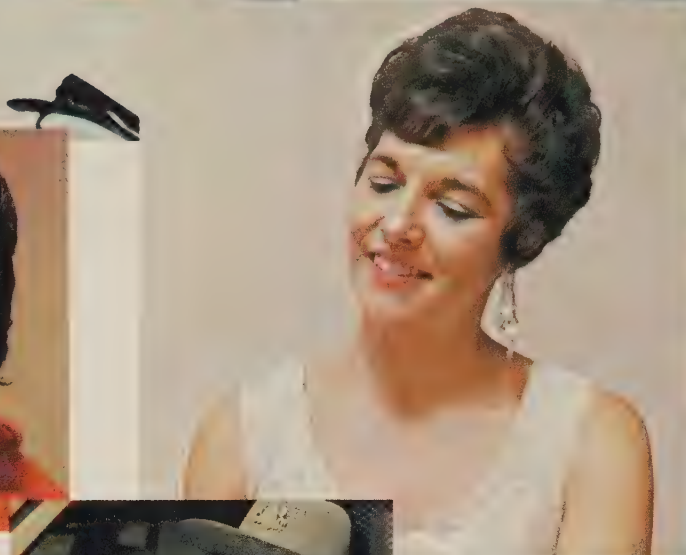
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Executive Affairs 527

Editorial

The post Task Force challenge 524

Special Features

Convention news 537

Regular Features

Dentistry in the news 529

Letters to the editor 523

Deaths 534

In Memoriam 534

Announcements 521

Articles

A one year study of a fissure sealant in two Nova Scotia communities — Gourley 549

Classified advertising 557

Advertisers' index 562

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Announcements/Avis

Information about other meetings or courses, including American continuing education courses, may be obtained by writing to CDA headquarters.

Canadian Dental Association

1974 Toronto, Ont, Oct 6-9

Complete details available from registration form. See last page.

1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14

1975 Chicago, USA, Oct 26-30

Canadian Meetings

Northern Ontario Dental Association, at North Bay, Ont. Sept 6-8, 1974. R.C. Weegar, 539 Cassells St, North Bay, Ont.

Canadian Association of Orthodontists, at Toronto, Sept 28, 1974. J.J. Schachter, Box 952, Saskatoon, Sask.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd, Ste 810, Toronto, Ont.

Association of Prosthodontists of Canada, at Hyatt Regency Hotel, Toronto. Oct 4-6, 1974. G. Zarb, Faculty of Dentistry, 124 Edward St, Toronto, Ont. M5G 1G6.

Canadian Academy of Prosthodontics, at Hyatt Regency Hotel, Toronto. Oct. 4-6, 1974. P.S. Sills, Canadian

Academy of Prosthodontics, Faculty of Dentistry, University of Western Ontario, London 72, Ont.

Canadian Academy of Periodontology, at Hyatt Regency Hotel, Toronto. Oct 4-5, 1974. J.D. Stewart, 311 Rubidge St., Peterborough, Ont. K9J 3P3.

Canadian Academy of Endodontics, at Royal York Hotel, Toronto. Oct. 4-6, 1974. Dr. B. Sedlezky, 4141 Sherbrooke St. W, Westmount, P.Q.

Canadian Academy of Oral Radiology, at Toronto. October 6, 1974. D.W. Stoneman, Dept. of Radiology, Faculty of Dentistry, 124 Edward St., Toronto M5G 1G6.

Canadian Society of Public Health Dentists, at Toronto. Oct 6-7, 1974. J. McConchie, 14265 - 56th Ave. Surrey, BC.

Canadian Dental Hygienists' Association, at Downtown Holiday Inn, Toronto. Oct 6-9, 1974. Ms. Ailsa Wood, No. 301 - 160 Balmoral Ave., Toronto.

Society for Clinical and Experimental Hypnosis, Scientific Program and Workshops, at the Ritz-Carlton Hotel, Montreal. Oct 8-13, 1974. Germain Lavoie, Hopital Saint-Jean-de-Dieu, Montreal, Que. H1N 1Z0.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov

18-20, 1974. Miss M. Komarnicka, 4166 St. Catherine St. W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov. 28, 1974. Mrs. P. Williams, 230 St. George St., Toronto, Ont. M5R 2P1.

Vancouver and District Dental Society, at Vancouver, Dec 6-7, 1974. Vancouver and District Dental Society, Suite 325, 925 West Georgia St, Vancouver 1, BC.

Manitoba Dental Association, at Holiday Inn, Winnipeg. January 17-18, 1975. Dr. P.R. Crawford, Chairman, MDA Annual Meeting, 308 Kennedy St., Winnipeg, Man. R3B 2M6.

College of Dental Surgeons of British Columbia, at Hyatt Regency Hotel, Vancouver. Apr 30 - May 3, 1975. K.L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC.

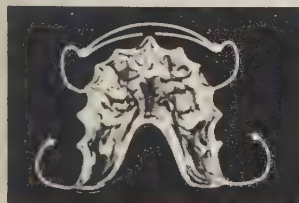
Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975. J. Bradey, 320 Eramosa Rd, Guelph, Ont.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W.C. Durham, 230 St. George St, Toronto, M5R 2P1.

Western Canada Dental Society, at Saskatoon. June 11-15, 1975. J.C. Horn, 101-230-20th St. E., Saskatoon, S7K 0A6.

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LETTERS TO THE EDITOR

Dental research

The concern about research and funds is timely. While the MRC on a proportional basis has supported dental research generously and dental researchers in Canada have responded with scientifically valid research projects, there is still much to be done.

Three points occur to me. At the level of workers in the fields, time plays a considerable part in determining whether I or my colleagues "do research." Dental departments are quite small in contrast to medical or science departments. Few of us enjoy the luxury of a single teaching role. Thus, our interests are spread over a wide field — dental materials, prosthetics, occlusion, neurophysiology and clinical ap-

plications thereof, for example, are the fields I try but fail to keep up with. This "spread" factor is the case with many clinical teachers and accounts for their sporadic research efforts. Often, one cannot properly control a research project with a technician under such circumstances.

Secondly, clinically orientated research, purely dental questions as you suggest in your editorial, are even more difficult research projects than calibrating say the diurnal rhythm of salivary amylase in the knee joint of the Syrian hamster. One requires all the training and skills of a research worker plus the clinical insights, and the project, when written up, sounds so indefinite that a grant agency wonders, as does the applicant, whether he will get any results. Clinical research, let it be understood,

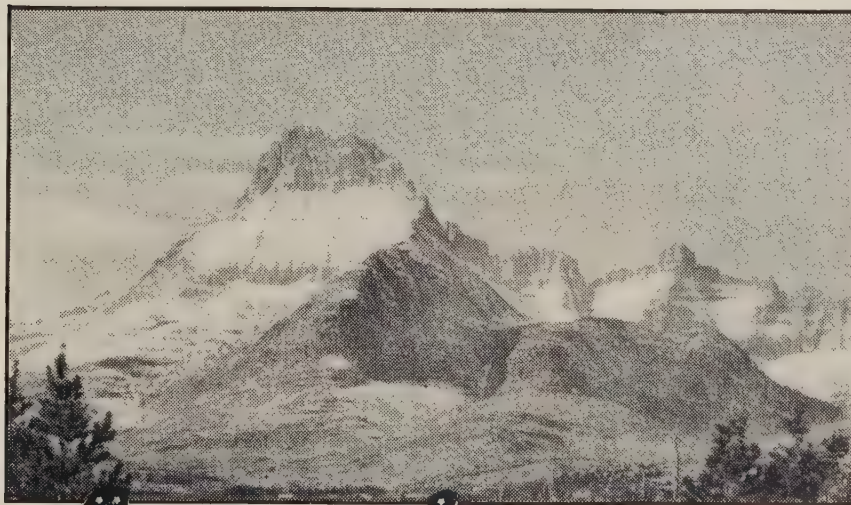
is the harder area to work in.

Finally, the profession could show its interest in Canadian research by inviting Canadians to address their local and provincial meetings. Too frequently, high priced orators of the minor prophet variety from southern climes sweep by when better information is nationally available. In the field of occlusion, for example, many of the recent stars seem to be saying what Dr. Box taught in Toronto many years ago. The profession should perhaps put a bumper sticker "Support your *local* dental research worker."

Richard H. Roydhouse, BDS, MS, DDS
Department of Restorative Dentistry,
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The post Task Force challenge

"Truly there is a tide in the affairs of men, but there is no gulf stream setting forever in one direction"

Lowell, 1870

The profession's attitude towards the CDA, as gathered from the recent national survey, will appear in the September issue, so that all can consider the findings prior to the board meetings in October. At that time also, the complete Task Force report will be presented to the Annual Meeting by Dr. J.B. Macdonald. Clearly, the 1974 Convention is destined to be a historical landmark in affairs of Canadian dentistry. But the work of the Task Force is only the beginning. Its purpose is to recommend ways in which the Association can be restructured so as to cope more effectively with the urgent problems facing Canadian dentistry — it was not intended that the Task Force would resolve the problems at this moment in time. We feel it is paramount, when reorganizing, to be aware of the nature of the problems which have to be faced.

The most encompassing issue, and one that perplexes all the professions alike, is the need for re-definition of the role of professionals in our rapidly changing society. Gone forever are the guilds from which the profession sprung. Are the professions themselves doomed, like Camelot, to slip into extinction because they lack the necessary idealism? It is apparently no longer possible for dentists, physicians or lawyers to function as independent esoteric sub-cultures which foster their knowledge and enjoy complete autonomy in deciding who will receive their services, what the nature of the services will be, or that level of compensation they will receive. It seems inescapable that governments, being the major purchasers of professional services, will demand more say in professional affairs — including the training of personnel, the delegation of tasks and the value of services being

purchased. Because public funds are involved, it is certain that many cost-accounting studies will be undertaken, and these studies will be sure to unearth deficiencies of which the profession may not even be aware, due to preoccupation with daily routine.

Should the profession retrench, taking the posture that it is only concerned with perfection of its treatment armamentum and be unconcerned about the distribution of its services? Or does professional responsibility extend far into the design and administration of systems for delivery of its services? The government's duty to account to the people for its activities is clearly understood and exercised daily in parliament.

But are not professionals also accountable to the people — and how should this be done? If in the future this accountability is only manifested through the profession's legal responsibility to the government, we feel that society and civilization will have lost a subtle but priceless part of its fabric, because all professionals should be custodians of the concept that private citizens, or associations of citizens, may be trusted to carry out a function for the benefit of society with a conscientiousness that makes laws or regulations governing their activities almost unnecessary. We suggest that ours and other professions have lost much of this image in the public eye. Is it not time to recapture it, and what steps must be taken? If public and governmental respect for complete professional integrity cannot be regained, then in the pure sense, the profession has no role beyond that of any other tradesmen's union and we must expect to be governed and regulated accordingly. But if we plan and act now to re-establish the common respect for professionalism, the pendulum of time may swing back again to the point where governments, being trusting and grateful of the existence of the professions, may cease to see the need for continual regulation of their activities.

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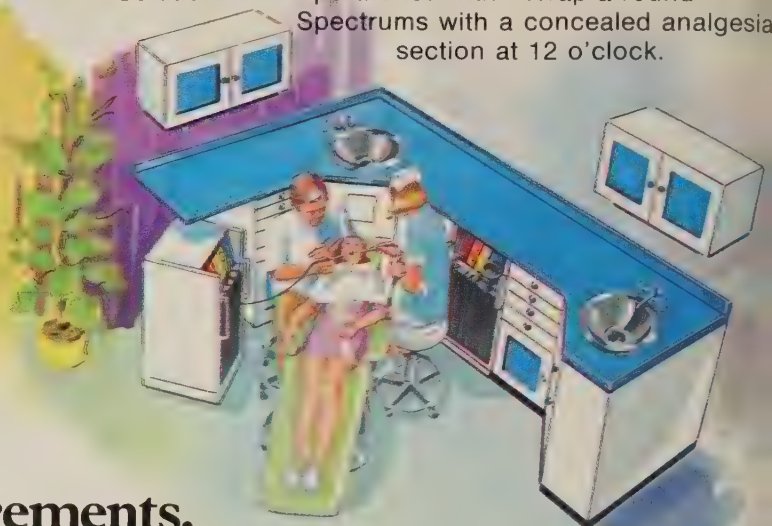




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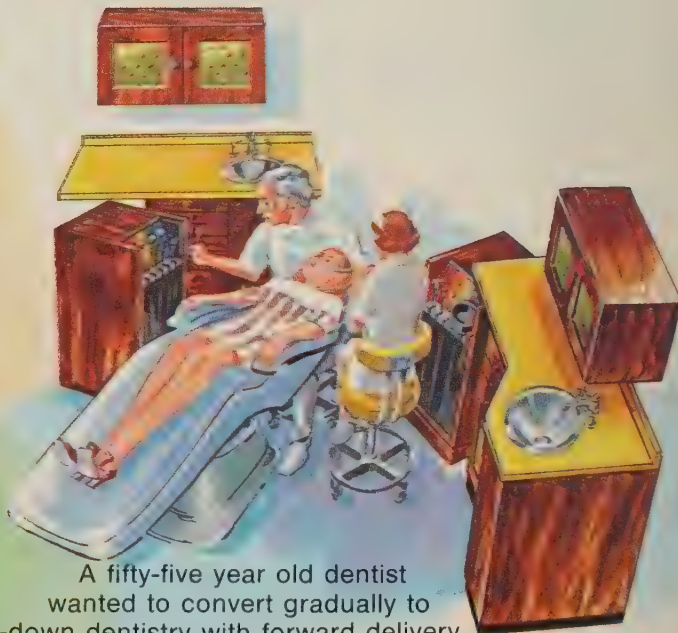
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EXECUTIVE AFFAIRS



J. Fred Reid

Your Convention

With this issue of the Journal, Canadian dentists are reminded that once again the CDA Annual Convention is rapidly approaching. This news will engender widespread interest, for dentists are "convention people." The Vancouver gathering in 1973 produced the single, largest, professional get-together in Canada. This motivation for continuing education in new techniques, improved materials, more efficient procedures and new equipment augurs well for the dental health of the Canadian people. It is a year-long job for Convention Chairman, Murray Cornish, and his Committee to present for you the highest calibre scientific program.

Although, or maybe because, dentists operate in an area of high mental and physical trauma on a day-to-day basis, when they get together, they are fun people. The old school tie comes out of mothballs and reunions abound. In addition, the social committee has top flight entertainment for everyone with that famous singing group "The Travellers" for the "Harvest Hoedown," and a gourmet's delight in the "Tom Jones" theme President's party. So come to "Toronto the Good" and join in another "best ever" convention.

Your Association

There is another important facet to your convention. The CDA operates for dentists of Canada by representation from all ten provinces, in the name of Governors who meet at the Annual Board Meeting for the three days immediately preceding the scientific and social program. It is, unfortunately, a fact of life that most members couldn't care less about the day-in, day-out routine of organized dentistry. They have one wish and that is for somebody to run things without threat to *their* day-in day-out routine.

This year there are some threats! This year there are some decisions that every dentist should share either in person or through his provincial corporate representative. Our only

hope for preserving a viable, vigorous and progressive profession is by transforming the apathy of each and every dentist into a keen sense of professional pride and, directly or indirectly, involvement on a national basis.

One year ago, the Executive Council was apprised by the Executive Director that the CDA could no longer function on the basis of its present financing, representation or physical accommodation. Without going into detail, the Board of Governors, when it learned of this serious state of affairs, formed a Task Force to study the structure of the organization and bring recommendations to the next Board Meeting in Toronto. Since that time, dedicated members of the profession, under the chairmanship of J.B. Macdonald, former president of the University of British Columbia, have worked unceasingly. Their findings will be of paramount interest to every dentist in Canada. National unity is at stake and that unity cannot be preserved by charging off in ten different directions.

The various Councils of the Association play a key role for the profession and some will be presenting resolutions to the Board of Governors to act upon, while others will be submitting critical information. The Council on Information Services must continually devise methods of public and inter-professional communication; the Council on Education is highly concerned with accreditation programs and how they should be funded. Do you believe the provincial dental licensing authorities should share in these costs? The Council on Health Care will be submitting its report on the Banff Conference on Dental Auxiliaries. It will be dealing with the shortage of trained auxiliaries and recommending methods to overcome the problem. Under discussion will be the Saskatchewan Children's Dental Health Plan and Council's displeasure with the lack of effective supervision in the program. Provincial action and reaction to the Hastings Report, The Medical Care Act and the Standard Claims Form will be discussed. The Council on Hospital Services has had an extensive survey program and the Council on Insurance and Investment has had its usual busy year. This Council is recommending to the Board of Directors of CDSPI that they study the feasibility of establishing an insurance agency, controlled and supervised by the dental profession.

The foregoing are just brief highlights of the activities of the Association to be considered by the Board of Governors, with the addition of the Council on Nominations, which has received and will present a slate of nominees who are extremely worthy of your consideration. To the men who allow their name to stand, win or lose, is owed a debt of gratitude, for the direction our profession is to follow is in direct proportion to the involvement of each and every member. The future depends on your support — NOW!

J. Fred Reid
President-elect

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YOUNG SCIENTISTS WIN CDA SCIENCE FAIR AWARDS

Excitement reigned May 11 at the Thirteenth Canada-wide Science Fair awards banquet in Calgary when two winners stepped forward to receive \$100 Canadian Dental Association prizes. James Patrick Chesser of Burlington and Larry Goldstein of Winnipeg were chosen by former CDA president, James Zimmerman, now retired from active practice and living in the city.

"It was a great pleasure to see all those dedicated young Canadians participating in advancement of science, each devoting much time to research, in bringing forth new ideas, new developments and seeking new truths," said Dr. Zimmerman in his report to

CDA. The winning entries which he chose were "Easing the Energy Crisis," submitted by grade 12 student, James Chesser and "Polarography" submitted by grade 11 student, Larry Goldstein.

In all there were 109 exhibits, entered by 145 students. Total prizes amounted to \$15,000 donated by many organizations such as CDA who are interested in furthering scientific research and encouraging young people. It is estimated 25,000 visitors toured the exhibit area at the University of Calgary during the week-long show from May 6-11. In addition to their \$100 prize, James and Larry also received from the CDA an illuminated

scroll and the offer of assistance with research material.

A panel of 50 evaluated the exhibits, lead by Dr. H.A. Buckmaster, professor of physics, University of Calgary and his deputy, F.X. Garneau of the University of Quebec at Chicoutimi. Entries were judged on the basis of scientific thought, originality, skill, dramatic value and the clarity and conciseness of the accompanying written report.

The Canadian Dental Association was one of the original supporters of the concept of a students' science fair and has participated in the awards ever since. It is gratifying that this year's fair was the largest ever held.

New quarters dedicated at Laval University

New quarters were dedicated to the Hospital Centre of the University of Laval (C.H.U.L.) May 30 in the presence of Claude Forget, Minister of Social Affairs in Quebec; Larkin Kerwin, Chancellor of Laval University; Wilbrod Bherer, president of the C.H.U.L.'s Administration Council, and Robert Trempe, the general director of university teaching in the Ministry of Education. The new quarters, financed by a grant from the Ministry of Social Affairs of Quebec, comprise an addition of 5,000 square feet at a cost of \$450,000. This expansion will permit more complete dental care in the hospital to C.H.U.L.'s clientele and an important contribution to the teaching of dentistry at C.H.U.L. In effect, professors at the Faculty of Dentistry, Laval University, will be able to practise their respective specialties on a

regular basis in the new quarters. Dr. Paul Simard, director of the Laval School of Dentistry and Jacques Dufour, head of the Department of Dentistry at C.H.U.L. and Laval professor are responsible for this project.

The new arrangements anticipate the clinical training of dental hygienists who are students of CEGEP, François-Xavier Garneau. This program will be under the jurisdiction of

CEGEP and will be coordinated by a dental hygienist.

Until the program begins this September, the quarters will be used by the summer clinic run by second-year students of the Laval School of Dentistry. The free clinic aims at preventive care and the promotion of dental hygiene for the general population and particularly for underprivileged groups. This program is also financed by a grant from the Ministry of Social Affairs.

EDITOR'S NOTE

The French news section of the *Journal* will recommence with the September issue under the editorship of G. de Montigny, DDS, MScD.

La section, "Les actualités dentaires", recommencera à faire son apparition en septembre sous la rédaction de G. de Montigny, DDS, MScD.

NOVA SCOTIA DENTAL ASSOCIATION CONFRONTS MANPOWER SHORTAGE

The Nova Scotia Dental Association aired its problems with the dental manpower shortage and lack of available hospital facilities at its two-day annual meeting, June 7-8. The situation was described as reaching crisis proportions and as a "disgraceful state of affairs." The present dental ratio in the province is one dentist to 4,000 persons.

Then president Alan Stewart of Windsor told the meeting that in spite of indications last fall that there would be an announcement of a new dental school, no such announcement has yet been made. Dean J.D. McLean, Faculty of Dentistry, Dalhousie University indicated that the university has been pressing for action from the new Nova Scotian minister of health and the governments of the other maritime provinces.

Dean McLean said, "The number of qualified Atlantic province students seeking admission to the faculty continues at a very high level."

W.B. Barro, chairman of the dental care systems committee also reported on the lack of hospital dental facilities. He reported only three hospitals (13 per cent) gave full-time availability of dental facilities, 26 per cent had no time available for dental procedures, 30 per cent gave from one to three hours or when necessary and 12 per cent gave 10 to 16 hours a week.

"To add to this disgraceful state of affairs, 75 per cent of hospitals did not have a dental drill, 80 per cent had no mobile or dental x-ray equipment, and 65 per cent had no instruments for extracting procedures," Dr. Barro added.

A few days after the annual meeting, N.S. Health Minister William MacEachern told the legislature that there are now 200 dentists and that the province will have to double the total number of dentists to 400 before an adequate dentist-to-citizen ratio is obtained.

STUDENT EXCHANGE BEGINS IN CANADA THIS SUMMER

Membership in the International Association of Dental Students (IADS) has enabled student members of the Canadian Dental Association to participate in student-organized exchanges with other countries.

At the IADS Congress in Amsterdam, this summer, three CDA student members — Ian Watson, Rod Toms and Dr. Terry Shapero, all of the University of Toronto — will represent the Association. During the Congress, formal acceptance of the Canadian application for membership will be reviewed. The CDA Executive Council and its Council on Education agreed to support the participation of all Canadian students who are members of the Association, through payment of the annual IADS dues.

Toronto will host the first IADS stu-

dent exchange in which Thanos Mayrakos and Nicolas Kouvelas of Athens, Greece and Keith Williams of Bristol, England will participate. In exchange, Robert McWhirter will be visiting and working in Greece and Duncan Brown will travel to England. Students are responsible for their own fares while host schools supply room and board.

Through direct work and the social interaction with students and educators, in the host institution, both the exchangees and the students they contact can experience a form of education not included in the usual dental school curriculum. Canadian students have thus begun a new and worthwhile program which should expand in time to include all students who are members of the Canadian Dental Association.

ADA issues statement on product evaluation

The following statement was issued by Dr. C. Gordon Watson, executive director of the American Dental Association:

Officials of the American Dental Association have been asked to comment by members of the dental profession and by members of the dental trade on a product evaluation program announced by the "Preventive Dentistry Research and Education Foundation." The Foundation was established by the American Society for Preventive Dentistry.

American Dental Association officials are most concerned that this proposal to provide a "seal of approval" or a "seal of superiority" to cover over-the-counter products, can be misleading to the public and can damage the prestige and credibility of the dental profession's long-standing product evaluation programs which are conducted by ADA agencies.

These ADA programs — such as that of the ADA Council on Dental Therapeutics — date back more than 40 years and have the confidence of both the public and the profession. They are based in solid clinical and laboratory research and their fundamental purpose is the protection of the public and the profession.

It seems apparent that an "evaluation program" that would include cosmetic products such as mouthwashes will be of dubious value to the public. It also seems apparent that a "seal of approval" which will be awarded only on the payment of a fee by the manufacturer will have little public credibility.

Association officials are concerned that the public will be misled into believing that this new "seal" is actually awarded by the American Dental Association, and thus the profession's respected evaluation programs will also lose credibility.

Association officials have asked the ASPD Foundation to reconsider its plans for the program before any serious damage is done.

C.W. McPhail new dean at Saskatchewan University

C.W. McPhail, of Saskatoon, has been appointed dean of the College of Dentistry at the University of Saskatchewan. He succeeds K.J. Paynter, who resigned last year to become director of the grants program of the Medical Research Council of Canada.

Dr. McPhail, who has been acting dean of dentistry during 1973-74, is professor and head of the Department of Social and Preventive Dentistry and an active member of the Dental Department of the University Hospital. He is also a lecturer in social and preventive medicine.

His research and publications have related to such areas as the preventive aspects of dental health, the health and social aspects of fluoridation, care of dental emergencies, denticare, and dental health among central Arctic and Saskatchewan peoples.

Dr. McPhail was born in Rockwood, Ontario, and received his early



C.W. McPhail

education in Eston, Saskatchewan. He is a graduate of the University of Alberta with degrees of bachelor of science and doctor of dental surgery. He went on to Northwestern University, Chicago, for a master of science degree in children's dentistry. He took a second master's degree in preventive dentistry at the University of Toronto. He is a Fellow of the International College of Dentists.

WHAT DID CDA REALLY SAY ABOUT PROPOSED DENTAL CARE PLAN?

Dentists across Canada were startled May 30 when Canadian Press and daily newspapers in every province reported that a spokesman for the Canadian Dental Association found the proposals for a combined public and private dental care plan to be acceptable in principle. Some local newspapers even took the initiative a little further, checking with provincial associations or local dental societies, and finding that "local dentists" were unaware of the plan.

The mystery is soon unravelled. This was a case of over-enthusiastic reporting at the Ottawa annual meeting of the Canadian Association of Accident and Sickness Insurers. The proposal put forward by Donald Philp, vice-president of Group Travellers of Canada, was for a combined denticare plan which would include participation

by the companies, government and the dental profession.

The CDA spokesman who was quoted was Ronald G. Dickson, chairman of the CDA Council on Health Care. He had been asked by CDA to attend and to participate, along with others, in a panel discussion. Dr. Dickson commented on the various proposals and at no time intimated to the audience or the press that he was expressing "agreement in principle," or that he was speaking on behalf of the Executive Council or Board of Governors. His performance was characterized by Canadian Press as being "cautious."

To date no proposal has been formally received by the Executive Council or the Board of Governors from the Accident and Sickness Insurers. If and when it is, it will be reported to the membership in the official manner.

Free dental project planned by UBC

The Faculty of Dentistry at the University of British Columbia has received a provincial government grant of \$104,608 to finance free dental care for children and adolescents in the Vancouver area. The proposal from the Faculty was first presented by Dean S. Wah Leung four years ago but was turned down at that time.

Initial plans are for UBC to provide preventive and basic restorative dentistry to about 2,500 children and adolescents selected by the dental division of the City of Vancouver Health Department and the Health Branch of the B.C. government. The clinic began operations May 15 and will run for 14 weeks.

Staff for the project are 30 student dentists entering fourth year assisted by 10 dental students entering third year and five students entering the second and final year of the Faculty's dental hygiene program. Supervision will be provided by graduate dentists and dental hygienists.

"The children will benefit from dental care and our students will receive a richer clinical experience," Dean Leung said. "The students won't graduate any sooner but they will graduate with a broader experience."

Special notice for industrial dental surgeons

The Journal has been advised by the honorary secretary of the Association of Industrial Dental Surgeons, that he would be glad to receive correspondence from any Canadian dental surgeons engaged in the occupational field who are planning to attend the Fédération Dentaire Internationale Congress in London, September 8-14. The secretary, J.D. Lane, would like to arrange a meeting between interested persons, during the time of the Congress.

To correspond, write: J.D. Lane, Medical Department, British Petroleum Company Limited, Britannic House, Moor Lane, London, EC2Y 9BU.

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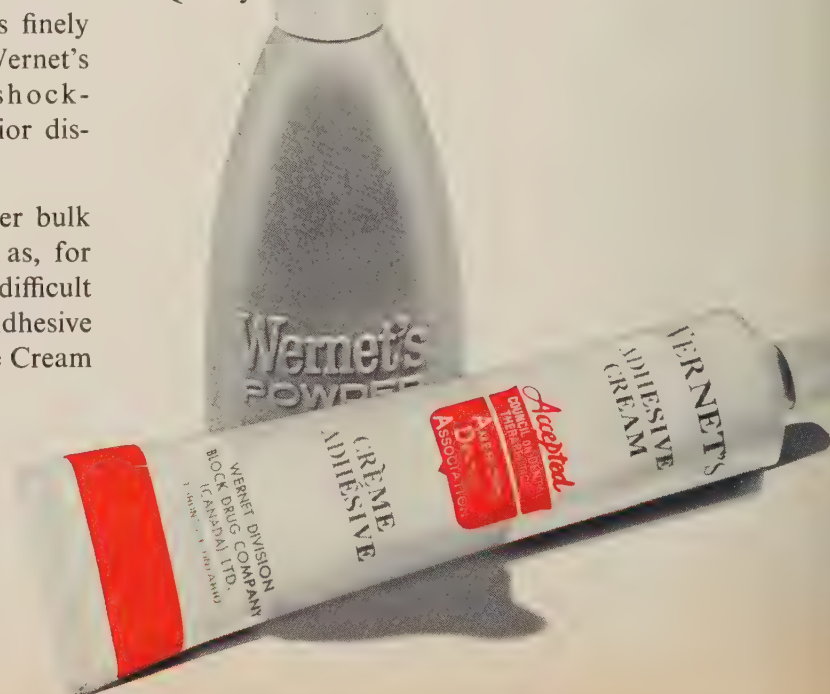
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POST COLLEGE ASSEMBLY HELD AT DALHOUSIE

Dental practitioners from all parts of the Atlantic province and other areas of Canada and the United States took part in the second Post College Assembly organized by the Faculty of Dentistry of Dalhousie University during convocation week in mid-May.

Keynote speakers were A.E. Nizel, of Tufts University School of Dental Medicine, R.E. Jordan of the University of Western Ontario, and Frank Popovich of the University of Toronto Dental School.

Dr. Nizel is professor of nutrition and preventive dentistry at Tufts, visiting professor of nutrition and metabolism at MIT and visiting lecturer in nutrition at Forsyth School of Dental Hygiene. He is the author of over 60 scientific publications and three textbooks dealing with dental nutrition; his most recent book, "Nutrition in Preventive Dentistry: Science and Practice," is used in Dalhousie dental school's undergraduate program.

His topic at the assembly was "personalized nutrition counselling in dental caries prevention". The objective of his presentation was to provide the preventive-oriented dental health team with authoritative scientific nutritional information and a practical office procedure for applying the knowledge in the prevention and control of dental caries.

Dr. Jordan was educated at the Universities of Saskatchewan, Alberta and Washington, and has taught at the Universities of Manitoba, Washington, Pittsburgh, and Western Ontario. From 1962 to 1964 he was on the faculty of

Dalhousie's dental school. He has many publications to his credit, and has long been involved in continuing dental education.

One of his books, "Dental Anatomy and Occlusion," of which he was co-author, is also used by dental students at Dalhousie.

At the Dalhousie assembly, he gave two lectures under the broad title of "Recent advances in operative dentistry." The lectures dealt with the results of four clinical research projects he has carried out at Western Ontario on anterior restorations, pit-fissure sealants, silver amalgam restorations and treatment of deep carious lesions.

Dr. Popovich, associate professor of orthodontics at the University of Toronto Dental School, graduated from the University of Toronto and is a Fellow of the Royal College of Dentists of Canada. He teaches in both graduate and undergraduate orthodontic departments at Toronto, and has given many lectures and presentations to orthodontists and general practitioners throughout Europe and North America.

During the assembly and convention, he delivered three lectures, on the "Evaluation of preventive and interceptive orthodontic treatment," "The clinical application of cephalometrics in the light of recent research findings," and "The effective use of the monobloc appliance in orthodontic practice."



Donald M.J. Bonang

Nova Scotia dentists elect new president

Donald M.J. Bonang has been elected president of the Nova Scotia Dental Association, at the annual meeting, June 7-8. A 1962 graduate of Dalhousie Faculty of Dentistry, Dr. Bonang has been active in organized dentistry in the province for many years.

He served as editor of the N.S. Dental Association News from 1962 to 1969, and was a member of the part-time faculty at Dalhousie until 1968. He has been president of the Halifax County Dental Society and is also president of the Atlantic Provinces Dental Convention Association.

Dr. Bonang has served as a member of the Ad Hoc Committee on the Children's Dental Program, and as a member of the Dental Advisory Committee to the Health Commission.

Mandatory Fluoridation decreed in Greece

Word has been received from the Panhellenic Dental Association that as of January 1974, fluoridation of water supplies has been decreed for all towns and cities in Greece with populations over 10,000.



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In memoriam

Matthew Henry Garvin

It is with great regret that the Canadian Dental Association announces the death of Matthew Henry Garvin in Winnipeg, June 28, at the age of 94. As the "grand old man" of Canadian dentistry, Dr. Garvin had received many honors including the Canadian Centennial Medal in 1967.

Dr. Garvin graduated in dentistry from the University of Pennsylvania in 1902 and from the University of Toronto in 1903. He practised in Winnipeg until his retirement in 1965.

The *Journal of the Canadian Dental Association* is particularly indebted to Dr. Garvin, since he served as the chairman of the committee which planned this publication in 1935, and he served as its editor for nearly 19 years. At the time the *Journal* was begun, dues in the CDA were fifty cents a year and the Board of Governors gave the

Journal committee half this sum, in order to publish the magazine.

Dr. Garvin's contributions to organized dentistry were extensive. Over the years, he served as president of the Canadian Dental Association, the Manitoba Dental Association, the Winnipeg and the Western Canada Dental Societies and the American Academy of Periodontology.

He was much honored. He was Life Honorary President of the Western Canada Dental Society, who established the M.H. Garvin Scholarship Fund at the University of Alberta; Honorary Member of the Canadian and British Dental Associations; Master of the International College of Dentists; Honorary Doctor of Laws at the University of Manitoba and an Honorary Fellow of the Royal College of Dentists of Canada, the Canadian Dental Nurses and Assistants' Association and the Western Canada Dental Nurses and Assistants' Association.

J. Menzies Campbell

It was with sadness that the Canadian Dental Association learned that J. Menzies Campbell, DDS, Hon. FDS RCS(Eng), FDS(Edin), FACD, FRSE, of Glasgow, Scotland, had passed away at his home on June 27 at the age of 87. Dr. Campbell received an honorary membership in the Canadian Dental Association in 1973. Illness meant the honor was conferred in absentia.

Canadian dentistry claims some small part in this man's long and distinguished career, since he graduated from the Toronto dental school in 1912. Dr. Campbell's greatest contributions were made as a dental historian, author and lecturer. It was a signal honor that the University of Edinburgh continued to publish his name in the official calendar, as an Honorary Lecturer on the History of Dentistry, although his last lecture was given in his 80th year.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on June 30, 1974:

Guaranteed Fund \$10.992;
Fixed Income Fund \$14.015;
Common Stock Fund \$26.490.

Total assets (market value) of the plan were \$16,976,719.42.

The following portfolio purchases and sales occurred during the preceding month: Bought, \$100,000 Bank of Montreal Bankers Acceptance discount note, \$200,000 IAC Ltd. discount note, \$80,000 Royal Trust Co. GIR, \$200,000 British Columbia Telephone Co. note, \$500,000 Ford Motor Credit Company note, \$100,000 IAC Ltd. discount note. Sold, \$100,000 Bank of Montreal note, \$200,000 Bank of Nova Scotia Bankers Account note, \$200,000 British Columbia Telephone Co. note, \$500,000 City Corp. Financial Services, \$200,000 Aluminum Company of Canada note.

Deaths

Allen, Leslie Talmage. 84. Lethbridge, Alta. University of Maryland, 1912. 24-6-74. Survived by Freda (wife), and Bill (son).

Berwick, Kenneth Cameron. 69. Montreal. McGill University, 1927. 8-6-74. Survived by Peggy (wife); Jamie and Hugh (sons); and Jean (daughter).

Breslin, William Wolfe. 72. Toronto. Royal College of Dental Surgeons of Ontario, 1924. 15-6-74. Survived by Lillian (wife); Paul (son); and Mrs. Rosilyn Newton (daughter).

Campbell, J. Menzies. 87. Glasgow, Scotland. University of Glasgow, 1911; Royal College of Dental Surgeons of Ontario, 1912. 27-6-74. Survived by Margaret (wife). Honorary member of CDA.

Garvin, Matthew Henry. 94. Winnipeg. University of Pennsylvania, 1902. Royal College of Dental Surgeons of Ontario, 1903. 28-6-74. Survived by Vera Margaret (wife). Past-President and honorary member of CDA.

Hodgson, Stanley Christie. 67. Edmonton. University of Alberta, 1931. 26-5-74. Survived by Michael (son), Lorena and Virginia (daughters).

Le Brun, Wenceslas. 77. Ste-Agathe-des-Monts, Que. University of Montreal, 1920. 7-6-74.

Spratt, Oliver Campbell. 86. Ottawa. Royal College of Dental Surgeons of Ontario, 1911. 20-6-74. Survived by Campbell (son).

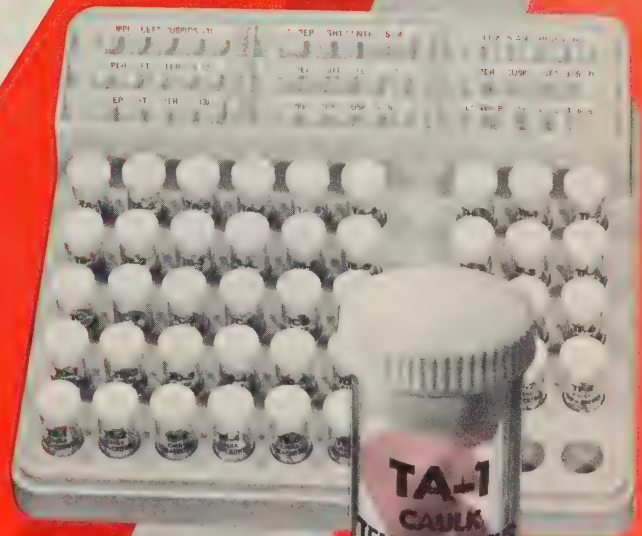
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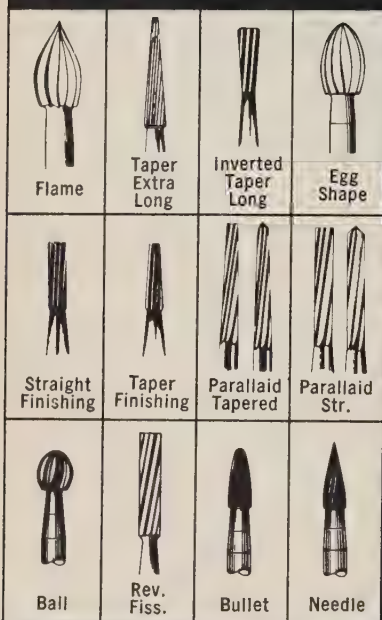
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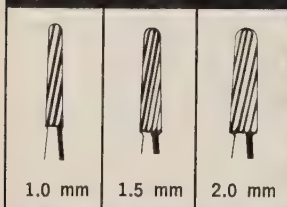
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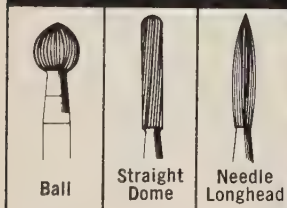
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CDA REACTION

June 27, 1974

Honorable Marc Lalonde
Department of National Health
and Welfare
Brooke Claxton Building
Ottawa, Ontario
K1A 0K9

Dear Mr. Lalonde:

Our Association has recently received a copy of your address to the Canadian Food Processors Association National Convention, delivered on April 29. We sincerely agree with your remarks concerning the importance of nutrition to the people of Canada and the fact that food distribution and food technology are complex problems.

As the official body representing dentistry across Canada, we would like to draw two important considerations to your attention. The first is based on well-founded research into the role played by sugar in the development of dental caries.

Under "Nutritional Guidelines for Foods," you noted that "... snack foods are not in themselves, bad for health. It is their over-use at the expense of more nutritionally balanced foods which gives cause for concern. It seems to us that a useful approach would be to devise ways by which the nutritional value of snack foods can be improved, perhaps by regulation." May we respectfully point out that snacks which are prepared with sugars and other sweet carbohydrates, such as honey and syrup, are not only heavy with nutritionally-poor calories but a leading cause of tooth decay. Our Association aims a great deal of our public education material at the problem of how to avoid sweet snacks and, secondarily, if sweet snacks are a temptation which can't be given up, when to eat such snacks for least harmful effect.

A copy of an article by Dr. M. Truuvert, published in the Journal of the Canadian Dental Association, is enclosed to illustrate our point.

As a follow-up to our previous correspondence on this topic, we note that your Department has an expert committee of medical advisers assembled to work on a food fortification program. If there is not a qualified practitioner of preventive dentistry attached to your committee, our Association would be delighted to have the opportunity of recommending several who could make an invaluable contribution from the viewpoint of caries control. Caries is a major problem with children and since most dental health plans begin as incremental programs for children, we feel dentistry has a valid position which should be expressed.

J.E. Abra, DDS
President



Hailed as one of Ontario's most exciting landmarks the City Hall, shown in the foreground, has become the symbol of Toronto's vision of the future. Nathan Philips Square directly in front of City Hall is a popular centre for many social activities.

TORONTO HOSTS CDA CONVENTION '74

A major drawing card for any convention is its location. This year Toronto will host the Canadian Dental Association's national convention October 6-9.

Whatever your tastes, whatever your interests you'll find Toronto offers excitement, stimulation and plenty of action.

Here are just a few ideas of things to do and see in and around the host city during your visit to Convention '74.

Metro Toronto Zoo — This is a must! Torontonians are justifiably proud of their new zoo which opens this month and is reputed to be one of the largest and finest of its type in North America. For the past few years, schoolchildren and community groups throughout the metro area have sponsored a wide range of fund raising events to purchase the various wild creatures featured here. The zoo is located in the Rouge River area just 25 minutes from downtown Toronto. Pavilions, hills, waterfalls and open air habitats for animals from all continents have been created on 710 acres of beautiful parkland. Mammals, birds, reptiles, amphibians and all types of freshwater fish are on display

along with exotic plant life and artifacts from faraway lands. All exhibits have the very quality of nature itself where animals roam free.

Ontario Place — A wonderland of interest and delight comprising 96 acres of parkland centred on three man-made islands in Lake Ontario just off-shore from the Canadian National Exhibition. Water, trees and blue skies form a background for glass and steel exhibit pavilions and a picturesque marina. A domed Cinesphere, cradling the world's largest curved film screens, is a glittering landmark of Toronto's night-life with its arc of sparkling lights. Boutiques and restaurants cater to every taste and pocketbook while a uniquely designed playland caters to the unlimited imagination of children. Ontario Place offers something for everyone. It's an exhibition, a fair, a film festival, a playground, a theatre and a picnic spot. In fact, it's a whole new focus on leisure.

The Grange — Although Toronto's new art gallery will not be finished in time for the convention, history buffs will find a visit to its original site interesting and worthwhile. The original

building which housed the city's art collection is known as The Grange and was built in 1817 when Toronto was still the Town of York. At that time, The Grange was the centre of social and political life in Upper Canada. In 1973, The Grange was opened to the public as a living museum with all rooms and furnishings restored to depict life as it was in the period of 1835 to 1840.

MacKenzie House — Another historic landmark in Toronto, this restored home provides an authentic illustration of the decor of the mid-1800's. At the time it was built, Toronto's population had just hit the 10,000 mark and William Lyon MacKenzie, a most interesting character in Canadian history, was the first mayor of Toronto. Throughout the year, special displays and activities are featured at MacKenzie house.

Centre Island — A short ferry ride from the foot of Yonge Street into Lake Ontario marks the start of an enjoyable visit to Toronto's Islands. The Islands contain 612 acres of parklands, picnic facilities, boating areas, a barnyard zoo and Centreville, a tiny village dedicated to delightful leisure.

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Toronto's famed Casa Loma. Sir Henry Pellatt spent three million dollars in the early 1900's erecting this Norman style home which contains 98 rooms complete with hidden staircases and panels.

Royal Ontario Museum — The Museum in Toronto is renowned as one of the finest in Canada. The big attraction at the Museum during the CDA convention will be the North American debut of the Chinese Exhibition. This exhibition in Toronto, the result of a cultural agreement between the Canadian Government and The People's Republic of China, follows highly successful visits to Paris, London, Vienna and Stockholm. The spectacular display of 385 ancient and priceless treasures depicts half a million years of Chinese history spanning the period between man and Kublai Khan.

McLaughlin Planetarium — While the Museum specializes in the earth-bound past, exciting displays at the Planetarium take you on a thrilling trip through time and space from the distant past to the distant future. A spacious, comfortable auditorium is designed to allow you to lie back and lose yourself in the wonders of the heavens.

The O'Keefe Centre — Built on two and a half acres of land, the O'Keefe Centre boasts one of the largest stages in Canada and can accommodate the most elaborate and complicated scenery of touring attractions. It was designed mainly for the presentation of musicals, revues, opera, ballet, drama, symphony and jazz. The auditorium seats 3,155 and the acoustics, flexible enough to meet the needs of widely differing requirements, are excellent.

During the convention the feature attraction at the O'Keefe will be the Canadian Opera Company.

The St. Lawrence Centre — As Toronto's centennial project, the St. Lawrence Centre has become this city's tribute to the performing arts. This modern theatre complex serves as a focal point for outstanding Canadian entertainment.

Ontario Science Centre — The Ontario Science Centre has been called the museum of the 21st century. But it isn't a museum at all, at least not in the sense most of us have come to regard museums. Emphasis here is placed on interpretive exhibits of scientific principles and technological achievements. A large proportion of the Science Centre's exhibits demand some action by the visitor. It may be nothing more than pushing a button or it may be actually using muscle power. Tests of perception and ability take the form of games or contests which pit man against machine. A number of demonstrations are scheduled regularly in various exhibit areas and working laboratories are now on view in several halls. About 100 of the Centre's 500-plus exhibits have some form of audio-visual input. These include 17 mini-theatres, some of them mixed media, where visitors press a button to start the show themselves. Wherever you go in the Science Centre the motto is "Please Touch".

FIRST EVER COMBINED SPECIALTIES CONFERENCE

The first ever Combined Specialties Conference will be held October 4 at the Hyatt Regency Hotel in Toronto. This conference, sponsored by the Royal College of Dentists of Canada, marks a major step toward the goal of improved communications among Canada's various dental specialist groups.

Participants in the conference include: the Canadian Academy of Paedodontists; the Canadian Association of Orthodontists; the Academy of

Oral Radiology; the Canadian Society of Oral Surgeons; the Canadian Academy of Periodontists; and the Association of Prosthodontists of Canada.

Conference activities will get underway Thursday evening, October 3, with a no-host get-acquainted cocktail party. F. Lovely, president of the Royal College of Dentists of Canada, will launch the formal sessions Friday morning with an opening address. At 9:30 a.m. A.F. Dungy, publicity chairman for the conference will pre-

side over the first scientific session which is devoted to "Metabolic diseases." F. Fraser and G. Nikiforuk are scheduled to make presentations during this session.

The second session of the morning will be on "Neoplasia" with R. Brooke, P. Mercier, G. Poyton and S. Weinberg as panelists. D. Stoneman is chairman of this presentation. Following this, G. Zarb will chair a panel on the "Multidiscipline approach to occlusal rehabilitation." Participating in this discussion are R. Golden, J. Little and D. Keperon.

The highlight of the conference will be the afternoon session on "Interpersonal communication" featuring Drs. N. and B. Chernick, a husband and wife team who have won international acclaim for their expertise in the specialized field of marriage counselling. This session will have appeal not only for conference delegates but also for their spouses.

As a finishing touch to the day-long conference, a gala social evening has been planned with dinner at Ed's Warehouse followed by an evening at the Royal Alexandra Theatre.

Convention Social Program: Have a Wonderful Time!

Sunday evening, October 6, the CDA National Convention swings out with a Harvest Hoedown, at the Four Seasons Sheraton Hotel — and there's no charge, it's all free!

Feature entertainment for the party is the internationally acclaimed singing group, "The Travellers." Come as you are and enjoy an evening of good fun. Leave your cares and concerns behind.

Monday, October 7, let the Convention pamper you with wine, fashion and music to go with your luncheon. Fashions will be from the Patricia White Shop of Toronto, in the elegant Regency Ballroom of the Hyatt Regency. Tickets are \$7.00 per person. Get them early and arrive at 12 noon, all ready to go.

Tuesday, October 8, it's the Ladies Hobbycraft Luncheon in the Main Ballroom of the Downtown Holiday Inn. Wine and fruit punch will be served followed by a delicious buffet. On exhibit will be arts and crafts by dental wives. Tickets are \$7.00 per person and the fun gets underway at 11:30 a.m.

Tuesday, October 8, is the social highlight of the CDA Convention — the President's Party. Continuous entertainment, including lots of surprises and dancing, will be the main feature. It starts with a reception on the Convention floor of the Four Seasons Sheraton.

Later in the Grand Ballroom, waiters in medieval costume will parade whole decorated turkeys, chickens, hams and butts of beef. Wines will be served as well as hot mead. Each guest will receive a large souvenir bib to permit full enjoyment of the rollicking "Tom Jones" theme.

Tickets will only be available to registered delegates and will, of necessity, be limited. Tickets are \$15.00 each or \$30.00 a couple. This is a party to remember — so remember to *order your tickets in advance*.

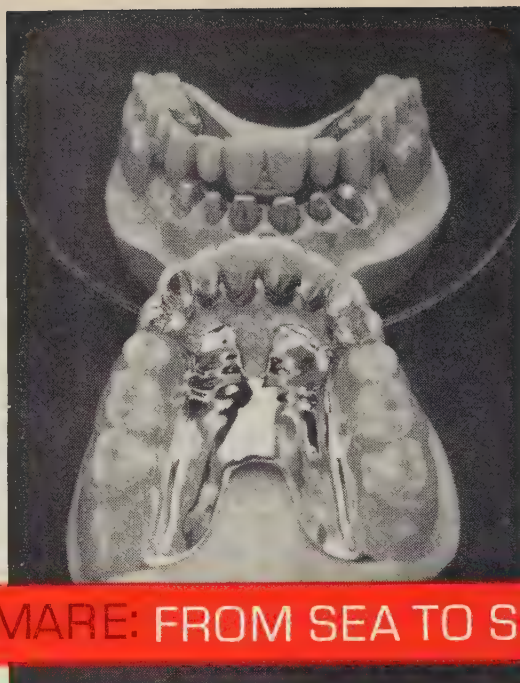
Wednesday, October 9, the CDA Installation Luncheon, at which J. Fred Reid of Vancouver will be installed as the Association's new president, will be open without charge to registered delegates and spouses.

Tickets and vouchers to the listed events are now available to pre-registered delegates. For reservation simply forward a note to the CDA Conventions Office. Attach it to your completed registration form if you are not already pre-registered. Please do not forget to enclose your cheque in payment of tickets ordered and, if applicable, registration. Mark number of tickets desired beside description(s).

Air Canada named official carrier

The National Convention Committee has appointed Air Canada "official carrier" for the 1974 National Convention and earnestly seeks your co-operation in supporting the arrangement. Since Air Canada has made a substantial contribution to the convention budget, the Committee urges you to fly Air Canada. Your support is vital.

For your convenience, a registration form is included in the back of this issue. Please fill it out and return it today. Pre-registration closes August 31.



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CDA CONGRES NATIONAL ADC TORONTO OCT. 6-9, 1974 CONVENTION

CONDENSED PROGRAM

MONDAY—OCTOBER 7

MORNING—9:30-11:30 a.m.

Room

1. Table Clinics (20)

Civic

2. **Ralph Phillips**, Indianapolis
Changing concepts in dental materials

Ballroom C.

3. Panel

George Beagrie, Toronto
(Moderator)

James Avery, Ann Arbor
Frances Greenwood, Toronto
B.J. Sessle, Toronto

Dental pain: its origin and control

Ballroom W.

4. **Albert Richards**, Ann Arbor
New developments in radiography

Cinema I

5. Grieve Memorial Lecture

Dominion S.

Robert Moyers, Ann Arbor
What is good orthodontics?

Dominion N.

6. **Paul Chapnick**, Toronto
Common pre-operative and post-operative surgical problems

7. Scientific Movies

Cinema II

AFTERNOON—2:00-4:30 p.m.

Dominion S.

1. Capsule Clinics:
Douglas Stoneman, Toronto
Dental disease or malignancy?

Jack Dale, Toronto
Serial extraction (or preferably)

guidance of occlusion

Ian Schofield, London
The inferior dental nerve and its canal

2. **Ralph Phillips**, Indianapolis
Changing concepts in dental materials

Ballroom C.

3. **Paul Sills**, London
Faults in removable partial denture construction

Ballroom W.

4. Panel

Cinema I

Thomas McKean, Toronto
(Moderator)

George Morgan, Radiology
Paul Morgan, Oral Surgery
John Pepper, Endodontics

Management of traumatic injuries in general practice

AFTERNOON—2:00-3:30 p.m.

1. **Donald Kramer**, Toronto
The porcelain fused to gold restoration: success or failure?

Civic
Ballroom

TUESDAY—OCTOBER 8

MORNING—9:30-11:30 a.m.

Room

1. Table Clinics (20)

Civic
Ballroom

2. **Terry Kavanagh**, M.D., Toronto
Coronary heart disease and physical fitness

Cinema I

3. Panel

H.B. Colnam, M.D., Chief Coroner,
Toronto (Moderator)

Dominion S.

James Purves, Toronto
John Hilsdon-Smith, Pathologist, Toronto

Det. Insp. W.R. Bennett, OPP
The unknown body — the role of the odontologist in the forensic team

4. **Redvers Warren**, Toronto
African safari armed with a dental elevator

Dominion N.

5. Scientific Movies

Cinema II

AFTERNOON—2:00-4:30 p.m.

Dominion S.

1. Capsule Clinics
G. Winston Backman, Winnipeg
Plaque control after periodontal defect correction

Ronald Jordan, London
Acid etch technique

John Phillips, Oshawa
Avoiding pitfalls in everyday endodontics

2. **Donald Kramer**, Toronto
The porcelain fused to gold restoration — success or failure?

Civic
Ballroom

3. **James Ryan**, London
Hugh MacKay, Toronto
Prosthetics for the aging patient

Cinema I

AFTERNOON—2:00-3:00 p.m.

4. **Lt. Col. Noel H. Andrews**,
Base Borden
Current periodontal therapy — the impact of recent research findings

Ballroom,
Centre

AFTERNOON—3:30-4:30 p.m.

5. **Mjr. E.D. Cragg**, Base Borden
Preventive prosthodontics — the

Ballroom
Centre

WEDNESDAY—OCTOBER 9

MORNING—9:30-11:30 a.m.

Room

1. **Robert Locke**, Toronto
The application of acupuncture to dentistry

Cinema I

2. **Ronald Jordan**, London
What's new in operative dentistry?

Civic
Ballroom

3. **Paul Chapnick**, Toronto
Common pre-operative and post-operative surgical problems

Dominion S.

4. **John D. Spouge**, Vancouver
The pathology of periodontal disease
Co-sponsored by the Royal College of Dentists of Canada.

Dominion N.

5. Scientific Movies

Cinema II

AFTERNOON—2:00-4:30 p.m.

Dominion S.

1. Capsule Clinics
Larry Pedlar, Toronto
Centric records for fixed prosthodontics

James Anderson, Toronto
The use of the custom incisal guidance to simplify the restoration of occlusal schemes

Irwin Lightman, Toronto
Prosthodontics for the geriatric patient

2. **Redvers Warren**, Toronto
African safari armed with a dental elevator

3. Panel

Anthony Parnell, London (Moderator)

K. Bentley, Montreal
G. Hurd, Kitchener
The dental practitioner in the hospital

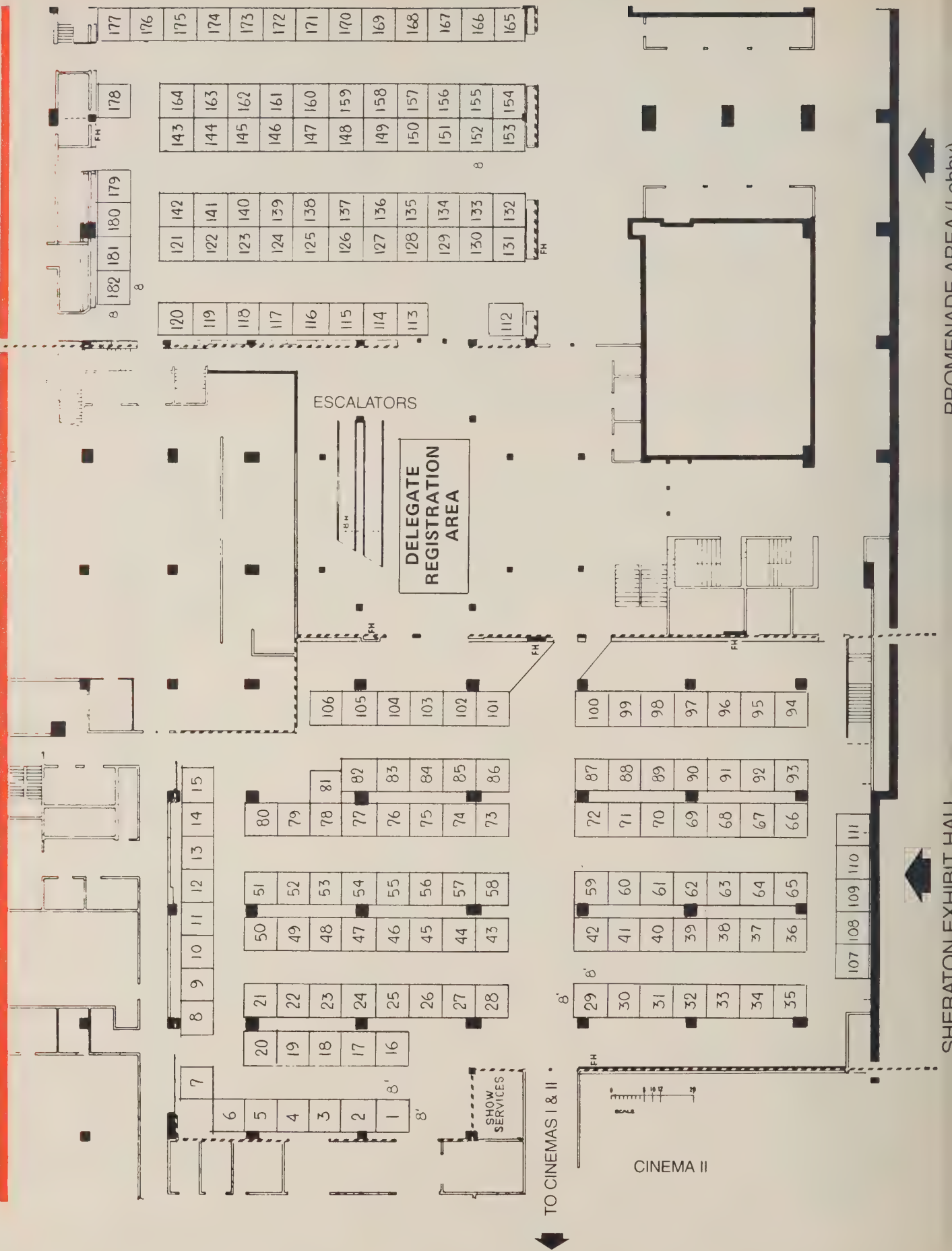
Cinema II

4. T.V. Program
Norman Levine, Toronto
Preparation and restoration of deciduous teeth with stainless steel crowns

Philip Watson, Toronto
Gingival retraction prior to taking impressions
Paul Morgan, Toronto
Tissue sampling for biopsy investigation

University
of Toronto
Auditorium
Room 108

CDA EXHIBITS FLOOR PLAN - FOUR SEASONS SHERATON HOTEL



EXHIBITORS

EXHIBITOR	BOOTH	EXHIBITOR	BOOTH
A & B Dental Equipment	41,42	MDT Corporation	92,93
Absodent Ltd.	110,111	Medical-Dental Stationers Ltd.	129,130
Amalgamated Dental Co. (Canada) Ltd.	98,99	The Medi-Dent Service	85,86
American Dental Mfg. Co.	153	Metro Dental Laboratory Ltd.	143
Ando Laboratories Ltd.	136	Midwest American	96,97
Ash Temple Ltd.	132,133	3M Canada Ltd.	103
Associated Laboratories Ltd.	47	Mo-Dent Ltd.	75
Astra Chemicals (Canada) Ltd.	76	Modular Custom Cabinets	127
E. A. Beck & Co.	120	C.V. Mosby Co.	121
Best's Professional Supply Co. Ltd.	148	Myerson Inter-American Corp.	119
Block Drug Co. (Canada) Ltd.	73	National Dental Warranty	37
Bosworth, Harry J. Co.	77	National Refining Co.	165,166
John O. Butler Co.	67,68	Nobilium Products of Canada Ltd.	78
Camara Dr. J.A.	145	Novocol Chemical Mfg. Co. of Canada Ltd.	74
Cameron-Miller Surgical Instruments Co.	106	Odonto Corporation Ltd.	54
Canadian Belvedere Products, Inc.	118	Pacemaker Corp.	17
Candent Products	158	Pelton & Crane	23,24
Canadian Nature Federation	16	Pfingst & Co., Inc.	45
Carnation Co. Ltd.	10	Philips Electronics Industries Ltd.	134
The L.D. Caulk Co. of Canada	27,28	Posen & Furie Dental Laboratories Ltd.	38
Central Dental Ltd.	112	Premier Dental Products Co.	142
Ceramco, Inc.	123	Proctor & Gamble Co. of Canada	150,151
Chayes Virginia Corp.	139-141	Prodenta Co. Ltd.	83,84
CML Medical Leasing Service	100	Professional Film Distributors Ltd.	154,155
Coastal Dynamics Corp.	39,40	Professional Pharmaceuticals	95
Coe Laboratories Inc.	21	Professional Sales Associates Ltd.	179,180
Colgate-Palmolive Ltd.	64,65	Pythagoras Group Ltd.	36
Cooper Laboratories Ltd.	5	Rathmann-St. John Orthodontic Laboratory	15
Cox Systems Ltd.	59-61	Rinn Corporation	20
DeLuca Dental Laboratory	19	Ritter Co.	48-50
Dental Ceramics of Canada	72	Rocky Mountain/Orthodontics Canada	128
The Dental Co. of Canada Ltd.	89,90	W.B. Saunders Co. Canada Ltd.	12
Den-Tal-Ez Mfg. Co.	32-34	Shaw Research	13
Dental Maintenance Service	3	Shofu Dental Corp.	116
Dentsply International	113-115	Siemens Medical Canada Ltd.	43,44
Dial Insurance Agencies Ltd.	157	Signacom Systems Inc.	6
Electro-Dent, Inc.	66	Smith Kline Surgical Specialties	169
Ellman Dental Mfg. Co. Inc.	63	Solid State Systems Ltd.	131
Fleximount Ltd. (Rainbow Printers)	156	Squibb E.R. & Sons Ltd.	144
Fraser Sweatman (Canada) Ltd.	181	Takara Belmont Equipment	125,126
Germiphene Co. Ltd.	149	Teledyne Aqua Tec Ltd.	26
Girard Inc.	94	Teledyne Dental Equipment Co.	91
Hek Mfg. Co. Inc.	22	Ticonium Co.	82
Henry & Co.	146,147	Tri-Hawk International Traders Ltd.	55,56
Hoffmann-La Roche Ltd.	152	Ultrasonics International Corp.	4
Hu-Friedy Mfg. Co. Inc.	81	Unident Ltd.	25
The Hygienic Dental Mfg. Co.	122	Uniform World	178
Inter-Unitek Canada Ltd.	8,9	United Dental Supply Corp.	135
Janar Co., Inc.	11	Van R Dental Products, Inc.	137
Johnson & Johnson Ltd.	57,58	Verd-A-Ray Industries Ltd.	124
Kapsi Dental Ceramic Laboratory	1	Virina Dental Products Ltd.	138
Kerr Canada	87,88	D.E. Wahler Ltd.	104,105
Kodak Canada Ltd.	117	Weber Dental	52,53
Lactona Corporation	51	Weil Dental Supplies Ltd.	101,102
Lee Pharmaceuticals	182	Westdent Co. Ltd.	167,168
Lewis Dental Ceramic Laboratories Ltd.	46	Whip-Mix Corp.	69
Lindberg & Homburger Dental Laboratories Ltd.	31	S.S. White Dental Division	79,80
Lux & Zwingerberger Ltd.	62	Williams Gold Refining Co. of Canada Ltd.	70,71
Mardan Business Systems Ltd.	29,30	Winthrop Laboratories	2
Masel International Sales Corp.	18	Wright Dental Canada Ltd.	35
McNeil Laboratories (Canada) Ltd.	14	Bill Zuro Ltd.	107

Current to press time.

New developments in radiography

Albert G. Richards, professor of dentistry at the University of Michigan, is one of the feature speakers lined up for the CDA convention's scientific program. His theme will be "new developments in radiography".

During his presentation Professor Richards will illustrate advanced radiographic techniques for determining the spacial relationship between objects hidden in the jaws and will demonstrate a quick and easy method for producing excellent duplicates of mounted sets of radiographs.

He will also explain and demonstrate

dynamic tomography, a new radiographic technique for producing focussed radiographic images of details lying at any depth within a subject.

A 34-year veteran of the University of Michigan teaching staff, Professor Richards holds a bachelors degree in chemical engineering and a masters in physics. He is a past president of the American Academy of Dental Radiology and a fellow of the American Association for the Advancement of Science. Author of more than 90 professional articles, Professor Richards is an acting consultant on a number of councils sponsored by the American Dental Association and by the U.S. Government.

Sure cure?

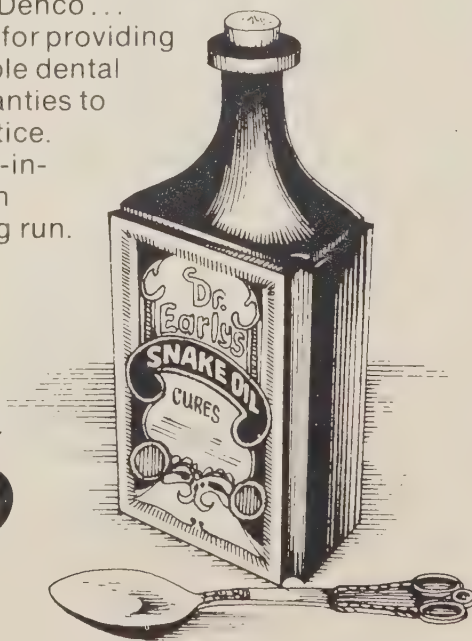
Ever think of the risks you take to "save a buck" on mail-order medicines... even the so-called "approved" ones? Could be these products measure up to your expectations of what's good for your patients. Then again, they may not be quite the "sure cure" they're "quacked" up to be.

Let's be honest, Doctor. The well-being of your patient, as well as your professional reputation rely a great deal on the dependability of the products you use. That's why you're better off to deal with an established company like Denco... with a qualified reputation for providing a full line of readily available dental products, backed by warranties to protect you and your practice.

Beats buying a "pig-in-the-poke"... and may even save you money in the long run.

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Series of TV clinics to be presented at U of T

An exciting innovation at this year's CDA national convention will be a series of TV clinics to be presented at the University of Toronto's Faculty of Dentistry.

These specially programmed clinics will cover such topics as: "Incisal corner restoration with composite resin" by A. Bruce Hord; "Gingival retraction prior to elastomeric impression taking" by P.A. Watson; "Tissue sampling for biopsy investigation" by Paul Morgan; and "Preparation and restoration of deciduous teeth with stainless steel crowns" by Norman Levine.

Royal Canadian Dental Corps plans reunion

The Royal Canadian Dental Corps Association have announced plans afoot to include a Royal Canadian Dental Corps reunion among the highlight events of the upcoming CDA National Convention. Scheduled for 4:00 p.m. to 6:00 p.m., Monday, October 7, in the Civic Ballroom of the Four Seasons Sheraton Hotel, the occasion is certain to attract several hundred. Plan to renew old acquaintances and make new friends.

HOW TO PRACTISE WHAT YOU PREACH

Dentists and auxiliaries who tell patients to cut down or cut out sweet snacks will get down-to-the-recipe help from the Toronto West Dental Hygienists' Society, at both the CDHA and CDA conventions. Table clinics on sugar-free cooking are to be presented from 9:30–11:30 a.m. October 7, at the CDHA and from 8:30–10 a.m. October 8, at the CDA. Judging from the success of the clinic when it was presented in May at the Ontario Dental Association Convention, it would be a good idea to get to the clinic early.

Idea for the table clinic originated with table clinic co-ordinator, Lynn Jones, with able assistance from hygienist-cooks: Nancy Adamson, Linda Berry, Anne Bosy, Pat Cooper, Carola Hock, Debbie Lang, Donna Leslie, Patricia McRae and Judi Rogers. M. Truuvert, DDS, Dip. Paed. and Mrs. Nina Burgess, nutritionist, of the Department of Preventive Dentistry, Faculty of Dentistry, U of T reviewed all the recipes to ensure their non-cariogenic status.

Experimenting with low calorie cooking doesn't prepare anyone for the task of preparing appetizing no-sugar

snacks and foods. The usual diet and diabetic cookbooks often offer recipes which cannot compare in texture and taste to the sugar-baked goodies they are supposed to replace. Co-ordinator Jones and her cooks spent many hours experimenting until they had really acceptable substitutes to offer. Their results are offered in a "Preventive Pot Pourri" cookbook, which will be available for sale at their table clinics. Free samples of various recipes will also be offered.

As a pre-convention appetizer, try the following which is recommended by the Toronto West Society:

Peppermint Squares

4 oz. cream cheese
3 tbsp. Creme de Menthe
½ tsp. vanilla extract
2 oz. or ¼ cup butter
6 shakes granulated sugar substitute
½ tsp. peppermint extract
Mix all ingredients in a bowl and cream together thoroughly with a fork. Place in an 8-inch square pan, sprayed with Pam or similar product. Freeze at least overnight. Squares must be kept in freezer, as they melt at room temperature.

Panel will probe origin and control of pain

George Beagrie, assistant director of the Division of Postgraduate Dental Education at University of Toronto, has organized a panel of dental scientists to examine the origin and control of dental pain. Members of the panel include: J.K. Avery, professor of oral histology and dentistry at the University of Michigan's School of Dentistry and president of the International Association for Dental Research; Frances Greenwood, research associate at the University of Toronto's Division of Biological Sciences; and Barry Sessle, associate professor of dentistry and assistant professor of physiology at the University of Toronto's Faculty of Dentistry.

The panel will examine the subject of dental pain from three different as-

pects. Dr. Avery will discuss the problem of pain experienced at the chairside during cavity preparation and will outline the theories of pain transmission in dentine and the changes seen in the pulp cells.

Testing for tooth vitality is a clinical entity fraught with inaccuracy and part of Dr. Greenwood's research has been aimed at better understanding the nodes of electrical transmission of pain stimuli.

Dr. Sessle will discuss the central origins of pain in the brain stem and will explain how some of the modern methods of pain control work.

Each of the three scientists will give a presentation of 20 to 30 minutes' duration followed by an open discussion with audience participation.

Demonstration/lecture on plaque control

The subject of plaque control continues to be of fundamental importance in preventive dentistry and, therefore, increasingly important in every type of dental practice. The topic is slated for the scientific program at the CDA Convention featuring G.W. Backman of the University of Manitoba Oral Diagnosis Department giving a combination demonstration/lecture.

Participating dentists will find themselves involved in a two-way discussion during the demonstration of plaque control instrumentation for dentitions which have had gross periodontal defects corrected. This stress on maintenance for patients following treatment is particularly valuable now that surgical interventions in periodontal treatment have become so common.

During the lecture portion of the presentation, Dr. Backman will cover the "why" and "how" of cleaning teeth, in a manner intended to impart a phraseology which can be used directly with patients for the sake of increased understanding and motivation.

To help both the dentist and the patient, most of the oral hygiene instruments presently on the market will be discussed with reference to their value and limitations.

These presentations will clarify the status of plaque control. Dentists must work in this area and it behooves everyone to learn both the techniques of dental management and the communicative skills needed to teach them to others.

Hospital dentistry

The role of the dental practitioner in hospitals is an expanding one which will necessitate the training of a large number of dentists in hospital procedures and protocol. Dr. Anthony Parnell of London, Ontario will moderate a useful and interesting panel on this topic, at the CDA Convention. It should be of great value to those interested in becoming associated with a hospital in their community and to those already involved in this area.

A black and white photograph of a large, industrial-looking machine, possibly a copier or printer. The machine has a light-colored, boxy body. On the left side, there is a dark, rectangular panel, possibly a control interface or a display. A paper tray or output slot is extended from the front of the machine, showing a stack of papers. The machine is positioned on a dark surface, and the background is dark and indistinct.

GENERAL  ELECTRIC

A one year study of a fissure sealant in two Nova Scotia communities

J.M. Gourley, PhD
Montreal

An ultraviolet light polymerized BPA-GMA pit and fissure sealant was applied to the occlusal surfaces of children's teeth in two rural communities of Nova Scotia by specially trained dental hygienists. Primary and permanent pairs of contralateral experimental and control teeth were selected from children aged 3-11. The application technique used was that recommended by the manufacturer but the conditioning of primary teeth was extended to 90 seconds. After one year, sealant was retained on over 95 per cent of primary and over 85 per cent of permanent occlusal surfaces. There were statistically significant caries reductions on the occlusal surfaces of experimental primary and permanent teeth.

Un matériau de scellement pour puits et fissures, BPA-GMA polymérisé par des rayons ultra-violets, fut utilisé sur les surfaces occlusales de dents d'enfants, dans deux agglomérations rurales de la Nouvelle-Ecosse, par des hygiénistes dentaires ayant reçu une formation spéciale. L'expérience a porté sur des paires de dents primaires et permanentes, dont la moitié servait de contrôle, chez des enfants de 3 à 11 ans. La technique recommandée par le fabricant fut utilisée pour l'application, mais le traitement à l'acide pour les dents primaires fut prolongé à 90 secondes. Après un an, le matériau de scellement était toujours retenu par les surfaces occlusales de plus de 95 pour cent des dents primaires et plus de 85 pour cent des dents permanentes. Les auteurs ont aussi noté une réduction statistiquement significative des caries sur les surfaces occlusales des dents primaires et permanentes.

Dental caries remains a chronic problem, particularly in children. Preventive measures designed to reduce tooth decay and developed over the last 30 years have been reviewed extensively by Ripa¹ and Kopel.² Fluoride has proved beneficial as a cariostatic agent on smooth surfaces but occlusal caries remains a distinct problem. Prophylactic cleaning of occlusal pits and fissures is often virtually impossible for anatomic reasons, a circumstance which has prompted the search for materials capable of sealing these irregularities and thereby diminishing susceptibility to occlusal caries. At present three types of sealant are commercially available for clinical use: (1) the reaction product of bisphenol A, glycidyl methacrylate and methyl methacrylate (BPA-GMA system), (2) the cyanoacrylates, and (3) polyurethane based materials.^{1,2} Some clinical trials with these materials have recently been reported.³⁻⁶

The present article reports a clinical study of the effectiveness of a BPA-GMA sealant (Nuva-Seal, L.D. Caulk Co., Milford, Delaware) in preventing occlusal caries in children residing in two Nova Scotia communities. The specific aims of the study were:

1. To determine whether the sealant adheres to occlusal enamel in primary and permanent teeth for periods of six months and one year.
2. To determine whether the sealant reduces occlusal caries in primary and permanent teeth by comparing sealed and contralateral unsealed teeth in the same mouth after six months and one year.
3. To compare the adhesion of the sealant in primary and permanent teeth.
4. To compare the preventive effect of the sealant in two different communities, both without a resident dentist, but both of which were receiving limited dental care. One of these communities has had a summer dental care program since 1969; in the other community such a program was initiated when the sealant applications began.
5. To determine whether sealants can be applied effectively by dental hygienists in this type of a dental service.

		No. of contralateral paired teeth (sealed or controls) observed*	Sealant		
			Lost	Retained	% retained
Community A:					
Primary	6 mo	182	2	177†	99
	1 yr	191	3	183	98
Permanent	6 mo	238	17	221	93
	1 yr	233	29	204	87
Community B:					
Primary	6 mo	106	0	106	100
	1 yr	118	4	114	96
Permanent	6 mo	20	1	19	95
	1 yr	20	2	18	90
Overall:					
Primary	6 mo	288	2	283†	99
	1 yr	309	7	297	97
Permanent	6 mo	258	18	240	93
	1 yr	253	31	222	87

* All children were not available for evaluation

† Some control and/or sealed teeth had exfoliated

Materials and methods

During the dental care program, children from three to 11 years were screened and suitable pairs of contralateral primary and permanent teeth were designated for sealing by the dental hygienist as she rendered preventive care. Paired experimental (to be sealed) and control tooth surfaces were selected at random in each mouth. These were the occlusal surfaces of bicuspid and molars in primary and permanent teeth. The dental hygienists were taught how to apply conditioning solution to the tooth surface after prophylaxis, paint on the sealant and polymerize the material with the ultraviolet light unit according to the manufacturer's instructions. However, because sealant retention may be less effective on primary than on permanent enamel with a conditioning time of 60 seconds,⁷ a longer conditioning time of 90 seconds was used.

The sealed and contralateral control teeth were recorded by colour coding on a separate chart. Each child received a topical application of acidulated fluoride after the sealant had been polymerized. Since neither community has a public water system, eight children in each community, chosen at random, were also asked to supply a sample of their drinking water for fluoride analysis. The fluoride content of

each sample was determined by a colorimetric method (SPADNS).

The sealed and contralateral teeth were evaluated after six months and one year by the same examiner in each community using visual methods and dental explorers. No radiographs were taken.

The data obtained at each time interval from primary and permanent contralateral occlusal surfaces in each community were tabulated to show exactly how pairing varied. Four classifications of pairs of occlusal surfaces were made: (1) $S_c C_{\bar{c}}$, sealed and control surfaces caries-free; (2) $S_c C_{\bar{c}}$, sealed surface carious, control surface caries-free; (3) $S_{\bar{c}} C_c$, sealed surface caries-free, control surface carious; (4) $S_{\bar{c}} C_c$, sealed and control surfaces carious. From these pairings, a paired chi-square analysis can be done using the model,⁸

$$X_c^2 = \frac{([q-r] - 1)^2}{q+r} \quad \text{and} \quad df = 1$$

Sealed surface (S)

	$\bar{c}$	c
control surface (C)	$\bar{c}$	c
	$\begin{matrix} p \\ r \end{matrix}$	$\begin{matrix} q \\ s \end{matrix}$

where X_c^2 is the chi-square value, corrected for continuity (Yates' correction) and df is the number of degree of freedom.

Results

Table 1 indicates the number of contralateral paired teeth, sealed or controls in each community and the retention of the sealant after six months and one year. The difference in numbers between treated and evaluated occlusal surfaces occurred because all children could not be evaluated at one or other of the times and because some teeth exfoliated. In both communities however, over 90 per cent of the participating children were evaluated at each time interval.

Surfaces with sealant partially missing were classified as having lost their protective covering. Surfaces where sealant was partially or completely lost were further evaluated for caries. All control surfaces and fissures were likewise evaluated for caries.

Table 2 compares the caries incidence between control occlusal surfaces and the contralateral sealed surfaces after six months and one year in each community. It shows the relationship between carious surfaces in sealed and control pairs.

Table 3 shows these data converted to percentages of caries in the sealed and control surfaces. Primary and permanent control teeth in both communities had a higher percentage of carious surfaces at six months and one year; and in sealed and control teeth permanent occlusal surfaces had a higher percentage of caries.

Samples of water taken from the communities and analyzed for fluoride content showed that neither community had natural fluoride in the local topography. Eight fluoride assays from each community ranged from 0.04 to

Caries status in control and sealed occlusal surfaces after six months and one year

Table 2

		No. of contralateral paired teeth (sealed or controls) observed	$S_{\bar{c}C_{\bar{c}}}$	$S_{cC_{\bar{c}}}$	$S_{\bar{c}C_c}$	S_{cC_c}	X_c^2
Community A:							
Primary	6 mo	157	153	1	3	0	
	1 yr	165	152	2	10	1	4.90
Permanent	6 mo	200	180	3	16	1	7.58
	1 yr	197	150	5	33	9	19.18
Community B:							
Primary	6 mo	101	97	0	4	0	
	1 yr	111	104	0	6	1	
Permanent	6 mo	17	16	0	1	0	
	1 yr	18	14	0	2	2	
Overall:							
Primary	6 mo	258	250	1	7	0	
	1 yr	276	256	2	16	2	9.39
Permanent	6 mo	217	196	3	17	1	8.45
	1 yr	215	164	5	35	11	21.03

0.49 ppm. A sample of the water supply of Halifax had a fluoride content of 0.85 ppm.

The occlusal anticariogenic effectiveness of the sealant was determined from the data by the following statistical assessments: (1) a test of significance, (2) the net gain, and (3) the per cent effectiveness. The rationale of this methodology is given by Ryge and Baskin.⁹

The significance of the results was determined by comparing the paired surfaces of sealed and control teeth according to the model described, and determining the chi-square analysis (X_c^2) for each group (Table 2).

In community B there was no statistically significant difference in caries reduction between sealed and control surfaces after six months and one year. In community A, primary surfaces of sealed and control teeth showed no statistically significant difference at six months, but were statistically different after one year ($P < 0.05$). Permanent surfaces of sealed teeth showed a highly significant difference compared to control surfaces at six months ($P < 0.01$) and one year ($P < 0.001$).

The net gain is the absolute number of treated surfaces estimated to have been saved by applying the sealant. This was determined from $S_{\bar{c}C_c}$ minus $S_{cC_{\bar{c}}}$ for the paired occlusal surfaces (Table 4). Net gain is dependent on the rate of caries attack in each community and the number of pairs of surfaces treated.

The per cent effectiveness of the sealant in reducing caries in sealed surfaces as compared to control surfaces

Percentage of sealed and control occlusal surfaces with caries after six months and one year

Table 3

		% of sealed caries surfaces	% of control caries surfaces
Community A:			
Primary	6 mo	0.6	1.9
	1 yr	1.8	6.7
Permanent	6 mo	2.0	8.5
	1 yr	7.0	20.5
Community B:			
Primary	6 mo	0.0	4.0
	1 yr	0.9	6.4
Permanent	6 mo	0.0	5.5
	1 yr	11.0	22.0
Overall:			
Primary	6 mo	0.4	2.7
	1 yr	1.5	6.5
Permanent	6 mo	1.7	7.9
	1 yr	7.2	20.6

Net gain and per cent effectiveness of the sealant in reducing occlusal surface caries after six months and one year

Table 4

		Net gain in number of surfaces	Net gain expressed per 100 paired surfaces	% effectiveness
Community A:				
Primary	6 mo	2	1.3	67
	1 yr	8	4.9	73
Permanent	6 mo	13	6.5	76
	1 yr	28	13.5	67
Community B:				
Primary	6 mo	4	4.0	100
	1 yr	6	5.5	85
Permanent	6 mo	1	5.5	100
	1 yr	2	11.0	50
Overall:				
Primary	6 mo	6	2.3	85
	1 yr	14	5.0	77
Permanent	6 mo	14	6.2	77
	1 yr	30	13.4	65

was determined by dividing the net gain by the total number of carious control surfaces ($S_e C_c + S_c C_c$) and expressing the result as a percentage (Table 4). This is a relative measurement which is independent of the specific caries attack rates in the two communities.

Discussion

The differences in the size of the tooth samples available for sealant and as controls between the two communities was directly related to the level of dental care in each. Fewer contralateral pairs, particularly in permanent teeth, were available in community B receiving dental care for the first time. The composition of this sample was also younger than that of community A.

The evaluations after six months and one year indicated that a high percentage of the sealant remained intact on both primary teeth (99 and 97 per cent respectively) and permanent teeth (93 and 87 per cent respectively).

These results compare favourably with other published results,^{4,6} and show that the sealant does successfully adhere to primary and permanent enamel. The results in deciduous teeth are actually better than those reported in other studies, perhaps on account of the slightly longer conditioning period which may favour adhesion.

The high level of sealant retention at six months clearly indicates that dental hygienists are competent to apply the material in the course of their treatment; otherwise more sealant would have been lost between the time of application and the first (six month) evaluation than between first and second evaluations.

Comparison of contralateral pairs showed that sealed teeth had fewer carious occlusal surfaces than those without sealant. This was true for primary as well as permanent teeth, at six months and after one year. The difference was statistically significant in community A, except for primary teeth evaluated after six months. However, the small sample size in community B militated against statistical significance in the results.

Many sealed surfaces which had become carious still retained some sealant. There was no indication as to whether the remnants of sealant had aided the carious process or whether the exposed occlusal surfaces were attacked at the same rate as control surfaces.

The net gain of occlusal surfaces thought to have been saved from caries by the sealant was positive for primary as well as permanent teeth. After one year the overall net gain of occlusal surfaces per 100 paired surfaces was 6.2 for primary and 13.4 for permanent teeth.

Values for per cent effectiveness of the sealant in reducing caries were all greater than 50 per cent and compare favourably with those of the other studies.⁵⁻⁷

Using Ryge and Baskin's three methods for assessing sealant studies, this investigation has shown that a BPA-GMA fissure sealant, when handled by dental hygienists, can reduce the incidence of caries in occlusal surfaces.

Conclusions

1. Ninety-seven per cent of primary teeth and 87 per cent of permanent teeth retained a BPA-GMA pit and fissure sealant one year after its application.

2. Longer conditioning, of up to 90 seconds, on the occlusal surfaces of primary teeth appeared to improve sealant retention.

3. The sealant was successfully applied by dental hygienists trained to use this material. They achieved a high level of retention of the sealant.

4. The sealant produced statistically significant caries reductions on permanent occlusal surfaces after six months and on primary and permanent occlusal surfaces after one year. There was a positive net gain of sealed surfaces saved from caries, and values of the per cent effectiveness in reducing caries exceeded 50 per cent in both dentitions.

5. Apart from the sample sizes, there appeared to be no differences between the two communities or in the sealant's effectiveness. This suggests that sealants can be used with equal benefit in underserved communities as well as those with a regular dental service. Also significant is the fact that the sealant was able to reduce caries in two areas without any public water system and a water table of low fluoride content.

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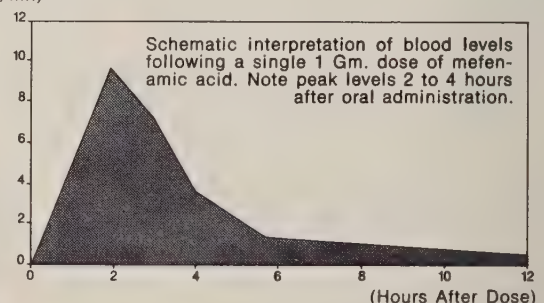
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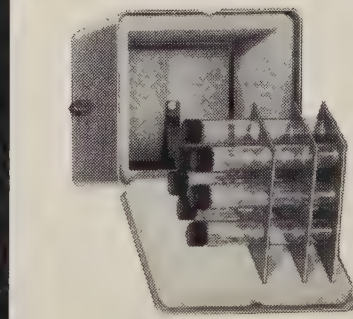
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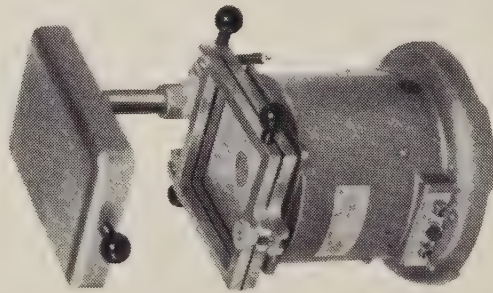
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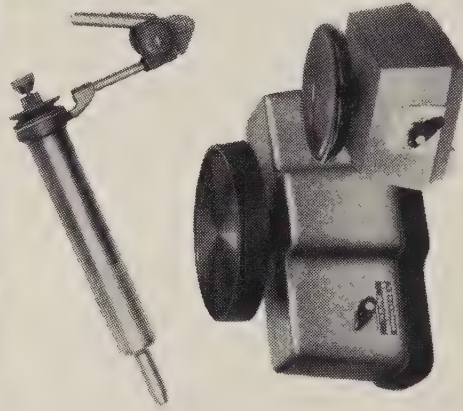
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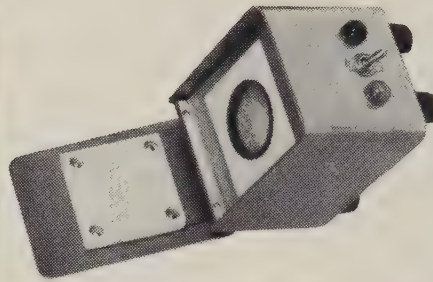


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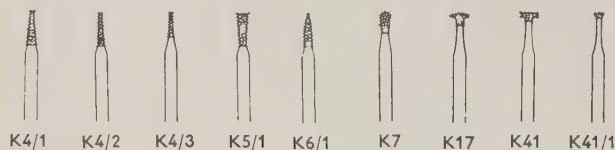
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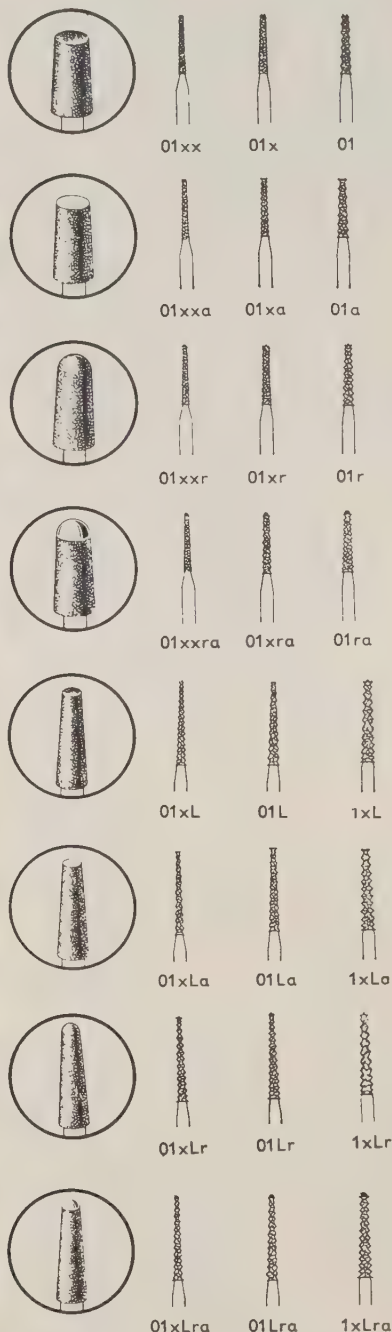
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ONTARIO — Sudbury. Required immediately — dental hygienist for group practice, excellent working conditions and equipment. Very good salary. Reply: Dr. M.C. MacKelvie, 765 Barrydowne Road, Sudbury, Ontario. Telephone (705) 566-6071.

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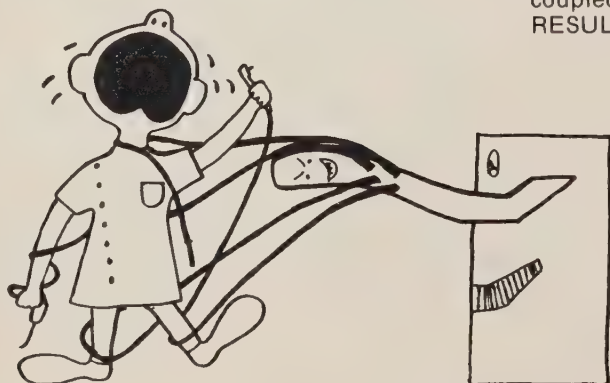
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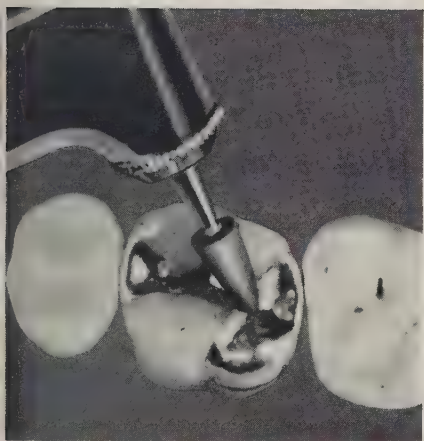
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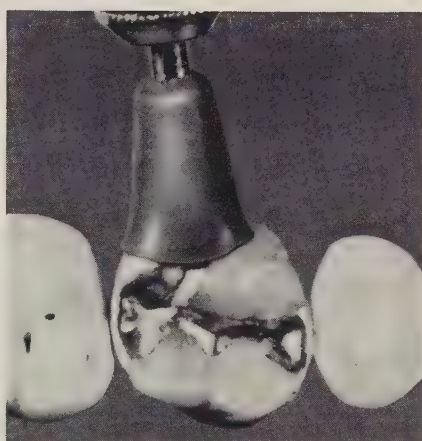
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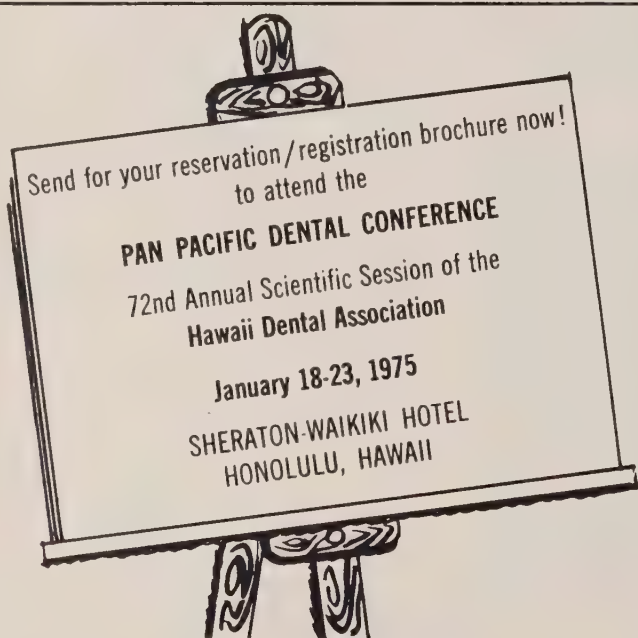
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ADVERTISERS' INDEX

American Dental Manufacturing Co.	523
Ash Temple Ltd.	536
Astra Pharmaceuticals	OBC
Block Drug Company (Canada) Ltd.	525, 532
Canadian Pharmaceutical Association	545, 546
L.D. Caulk Company of Canada	535
C.M.L. Medical Leasing Service	553
Columbia Dentoform Corporation	533
Denco	544
Dentsply International	IBC, 518, 526
General Electric Medical Systems	548
Henry & Company	555
Inter-Unitek Canada Ltd.	528, 559
Janar Co. Inc.	520
Kapsi Dental Ceramic Laboratory	538
Medi-Dent	IFC
Nobilium Products of Canada	540
Novocol/Buffalo	556
Ordont Orthodontic Laboratories, Inc.	521
Parke, Davis & Company Ltd.	554
Pfingst & Company	558
Proctor & Gamble	517
William H. Rorer (Canada) Ltd.	524
Shofu Dental Corporation	561
Wand-X Corporation	522

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TASK FORCE REPORT COMPLETED

The Task Force Report, under the chairmanship of J.B. Macdonald, has been completed and distributed to all members of the Canadian Dental Association Board and to CDA corporate members for study prior to the Annual Board Meeting, October 3-5. Major revisions to the present organization of the CDA have been suggested by the task force members and all aspects of the Report will be subject to thorough discussion at the Board level, as an initial step in acquainting the membership with its contents.

J.H. JOHNSON TO RECEIVE CDA HONORARY MEMBERSHIP

Well-known Ontario dentist, Joseph Harker Johnson, has been named as the recipient of an Honorary Membership in the Canadian Dental Association. The honor will be conferred at the CDA National Convention's Installation Banquet, Wednesday, October 9.

The Association is pleased to honor such an outstanding man who contributed for so many years to organized dentistry and to dental education. As Professor and Head of the Department of Dental Surgery and Anesthesia at the University of Toronto, he appeared on many major programs. He is a past president of the Ontario Dental Association, the Academy of Dentistry, the Ontario Society of Oral Surgeons, and the Canadian Society of Oral Surgeons. Dr. Johnson is also a Life Member of the American Society of Oral Surgeons.

ROYAL COLLEGE OF DENTISTS OF CANADA CONVOCATION

The Royal College of Dentists of Canada will hold its Convocation at the Hyatt Regency Hotel, October 3, during the CDA Board Meeting and will confer Honorary Fellowships on Scott Hamilton of Edmonton, Joseph H. Johnson of Toronto and Harold Hillenbrand of Chicago, former Executive Director of the American Dental Association. Dr. Hillenbrand has been invited to deliver the Convocation address.

DVA DENTISTS AGAIN CHOOSE CDA CONVENTION

Enthusiastic response to last year's choice of the CDA Convention as the annual meeting of the Department of Veteran's Affairs departmental dentists has led to a repeat in Toronto, this year. An even larger turn-out of DVA professionals is anticipated for their meeting Tuesday, October 8 in the Kent Room of the Four Seasons Sheraton.

LE RAPPORT DE L'EQUIPE DE TRAVAIL EST TERMINE

Le rapport de l'équipe de travail, présidée par le docteur J.B. Macdonald, a été complété et distribué aux membres du Conseil des Gouverneurs de l'Association dentaire canadienne et aux corporations membres de façon à être étudié avant l'assemblée annuelle du Conseil qui aura lieu du 3 au 5 octobre. L'équipe de travail a suggéré des modifications importantes aux structures actuelles de l'ADC et toutes les facettes du rapport seront discutées à fond par le Conseil des Gouverneurs, comme prémice à la familiarisation des membres avec ces nouvelles structures.

LE DOCTEUR J.H. JOHNSON RECIPIENDAIRE D'UN CERTIFICAT HONORAIRE DE L'ADC

Un dentiste bien connu de l'Ontario, le docteur Joseph Harker Johnson, recevra un diplôme de membre honoraire de l'Association dentaire canadienne. Cet honneur lui sera décerné au diner d'intronisation du Congrès national de l'ADC, le mercredi, 9 octobre 1974.

L'Association est heureuse d'honorer un confrère aussi distingué qui, durant de nombreuses années, a collaboré aux activités d'organisation de la profession et à l'enseignement dentaire. Le docteur Johnson, en qualité de professeur et de directeur du département de chirurgie buccale et d'anesthésie de l'Université de Toronto, a présenté plusieurs communications. Il est ancien président de l'Association dentaire d'Ontario, de l'Académie de dentisterie de la Société de chirurgie buccale. Le docteur Johnson est aussi membre à vie de l'American Society of Oral Surgeons.

COLLATION DU COLLEGE ROYAL DES CHIRURGIENS DENTISTES DU CANADA

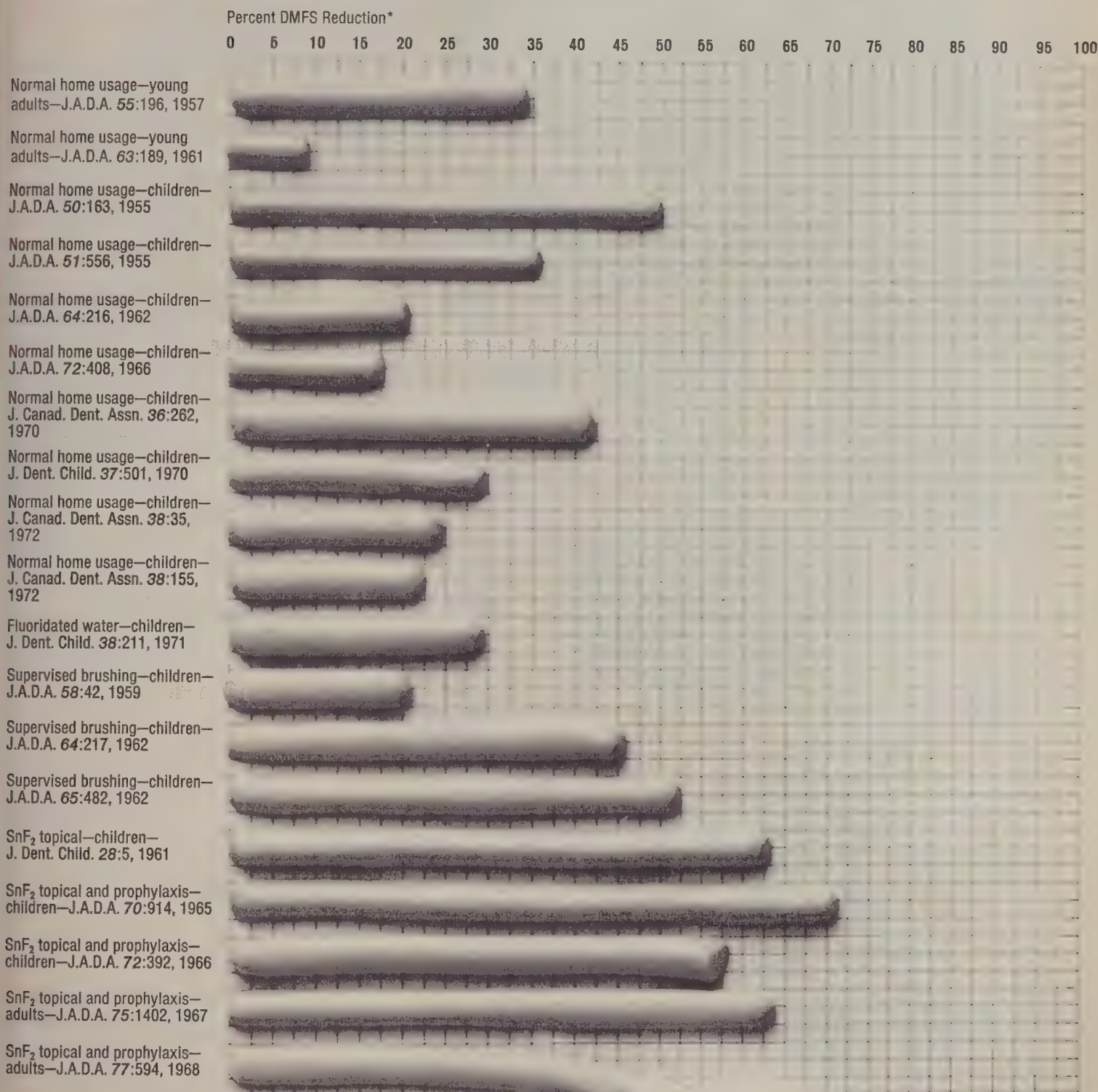
Le Collège royal des chirurgiens-dentistes du Canada tiendra sa collation de diplômes, le 3 octobre, à l'Hôtel Hyatt Regency, au cours des séances du Conseil des Gouverneurs de l'ADC. Le Collège remettra des certificats d'honneur aux docteurs Scott Hamilton, d'Edmonton, Joseph H. Johnson, de Toronto, et Harold Hillenbrand, de Chicago, ancien directeur exécutif de l'Association dentaire américaine. Le docteur Hillenbrand prononcera l'allocution de circonstance.

LES DENTISTES DU MINISTERE DES AFFAIRES DES VETERANS CHOISISSENT ENCORE LE CONGRES DE L'ADC

Les dentistes à l'emploi du ministère des Affaires des vétérans, forts du choix qu'ils ont apprécié l'année dernière, ont décidé d'opter encore cette année pour le Congrès de l'ADC qui aura lieu à Toronto, en guise de leur réunion annuelle. Ils s'attendent à ce qu'un plus grand nombre du personnel du ministère s'assemble le mardi, 8 octobre dans le Salon Kent de l'Hôtel Four Seasons Sheraton.

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Executive Affairs	578
Editorial	
Challenge for change	576
Un défi à l'amélioration	576
Special Features	
Convention Program	590
Convention news	592
The attitudes of Canadian dentists towards the Canadian Dental Association, 1974 — G. Grant Clarke and John B. Macdonald	597
Analyse de l'attitude des dentistes canadiens à l'égard de l'Association dentaire canadienne, d'après un sondage mené en 1974 — G. Grant Clarke et John B. Macdonald	617
Regular Features	
Letters to the Editor	573
Dentistry in the news	581
Deaths	588
In Memoriam	588
Announcements	571
Articles	
Antibiotics for topical use — deVries and Francis	625
Classified advertising	629
Advertisers' index	636
Photo credits: page 581, Telegraph-Journal, Saint John, N.B.	

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Canadian Dental Association

1974 Toronto, Ont, Oct 6-9
1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1974 London, England, Sept 8-14
1975 Chicago, USA, Oct 26-30

Canadian Meetings

Canadian Association of Orthodontists, at Toronto, Oct 3-6, 1974. J.J. Schachter, Box 952, Saskatoon, Sask.

Canadian Society of Oral Surgeons, at Hyatt Regency Hotel, Toronto. Oct 3-6, 1974. W. Prusin, 99 Avenue Rd, Ste 810, Toronto, Ont.

Canadian Academy of Paedodontics, at Hyatt Regency Hotel, Toronto. Oct 4, 1974. Dr. F. Pulver, Canadian Academy of Paedodontics, 2008 Bathurst St, Toronto, Ont M5P 3L1.

Canadian Academy of Periodontology, at Hyatt Regency Hotel, Toronto. Oct 4-5, 1974. J.D. Stewart, 311 Rubidge St, Peterborough, Ont K9J 3P3.

Association of Prosthodontists of Canada, at Hyatt Regency Hotel, Toronto. Oct 4-6, 1974. G. Zarb, Faculty of Dentistry, 124 Edward St, Toronto, Ont M5G 1G6.

Canadian Academy of Endodontics, at Royal York Hotel, Toronto. Oct 4-6, 1974. Dr. B. Sedlezky, 4141 Sherbrooke St W, Westmount, P.Q.

Canadian Academy of Prosthodontics, at Hyatt Regency Hotel, Toronto. Oct 4-6, 1974. P.S. Sills, Canadian Academy of Prosthodontics, Faculty of Dentistry, University of Western Ontario, London 72, Ont.

Canadian Academy of Oral Medicine, at Four Seasons-Sheraton Hotel, Toronto. Oct 5, 1974. S.L. Kogon, Dept. of Oral Medicine, Faculty of Dentistry, University of Western Ontario, London, Ont N6A 3K7.

Canadian Academy of Oral Radiology, at Toronto. Oct 6, 1974. D.W. Stoneman, Dept. of Radiology, Faculty of Dentistry, 124 Edward St, Toronto M5G 1G6.

Canadian Society of Public Health Dentists, at Toronto. Oct 6-7, 1974. J.M. Conchie, 14265 - 56th Ave, Surrey, BC.

Canadian Dental Hygienists' Association, at Downtown Holiday Inn, Toronto. Oct 6-9, 1974. Ms. Ailsa Wood, #301 - 160 Balmoral Ave, Toronto.

Society for Clinical and Experimental Hypnosis, Scientific Program and Workshops, at the Ritz-Carlton Hotel, Montreal. Oct 8-13, 1974. Germain Lavoie, Hôpital Saint-Jean-de-Dieu, Montreal, P.Q. H1N 1Z0.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov 18-20, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215,

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov 28, 1974. Mrs. P. Williams, 230 St George St, Toronto, Ont M5R 2P1.

Vancouver and District Dental Society, at Vancouver, Dec 6-7, 1974. Vancouver and District Dental Society, Suite 325, 925 West Georgia St, Vancouver 1, BC.

Manitoba Dental Association, at Holiday Inn, Winnipeg. Jan 17-18, 1975. Dr. P.R. Crawford, Chairman, MDA Annual Meeting, 308 Kennedy St, Winnipeg, Man. R3B 2M6.

College of Dental Surgeons of British Columbia, at Hyatt Regency Hotel, Vancouver. Apr 30 - May 3, 1975. K.L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC.

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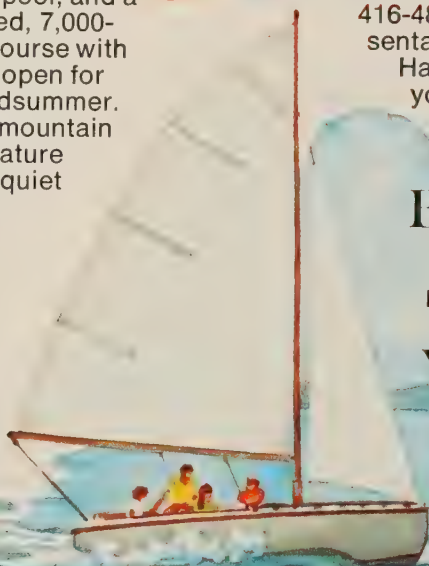
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In Canada, a prospectus has been filed for the Province of Ontario only, and this is not an offering in the other jurisdictions in which it is unlawful. OA 12-15-74.

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975. J. Bradey, 320 Eramosa Rd, Guelph, Ont.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W.C. Durham, 230 St George St, Toronto, Ont, M5R 2P1.

Western Canada Dental Society, at Saskatoon. June 11-15, 1975. J.C. Horn, 101-230-20th St E, Saskatoon, Sask. S7K 0A6.

Canadian Society of Public Health Dentists, at St John's Nfld. Aug 17-20, 1975. J.M. Conchie, 14265 - 56th Ave, Surrey, BC.

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Oct 25-26, 1975. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Oct 27-29, 1975. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

International Meetings

European Academy of Oral Implantology, at Paris, Sept 20-23, 1974. M. Combres, 7 Avenue d'Assas, Montpelier, France.

American Academy of Periodontology, at Atlanta, Georgia. Oct 2-6, 1974. American Academy of Periodontology, 211 E Chicago Ave, Rm 924, Chicago, 60611, Ill, USA.

American Institute of Oral Biology, at Palm Springs, Calif. Oct 25-29, 1974. Membership Chairman, P.O. Box 897, Glendora, Calif, 91740, USA.

American Dental Association, at Washington, DC. Nov 10-14, 1974. American Dental Assn, 211 East Chicago Ave, Chicago, Ill. 60611, USA.

Association of American Women Dentists, at Shoreham Hotel, Washington. Nov 12, 1974. Ms. H.F. Haughey, Publicity Chairman, Association of American Women Dentists, 435 North Michigan Ave, Chicago, Ill.

Comments on Continuing Education

In view of the fact that the feature theme of the June issue of the *Journal* was Continuing Education, I wish to broach some principles which I believe are relevant to this subject.

- 1) Mandatory attendance at lectures, conventions and postgraduate courses for the purpose of building up credits is a very negative approach to the continuing education problem.
- 2) If courses, lectures and convention programs of high quality are available, dentists will be very much in attendance.
- 3) Control of the problem at its source, namely the culling out of the digitally inept in the early years of the dental course, is a most necessary step.
- 4) Some of the finest dentists perform exemplary services daily in spite of not having taken frequent courses. Conversely, some of the least talented performances in the field of dentistry emanate from those who are avid attenders of continuing education courses.
- 5) The provinces of Ontario and Quebec constitute 69 per cent of the dentists in Canada. The sheer number of practitioners in these two provinces poses a significant deterrent to the controls necessary with the mandatory attendance concept.
- 6) Politically, the prospect of removing the licence to practise in a range of, say, 200 to 400 dentists would prove of such dimension as to stagger the imagination, to say nothing of the inspectors who would be required for the task.
- 7) It would be foolhardy to even attempt to create a mandatory licensure program if no facility exists to offer retraining facilities, complete with the personnel needed to man them.

In conclusion I recommend positive actions: more quality courses and lectures; more power within the profession for disciplining its members; and allowing admission committees to accept candidates on probation until a suitable competence in digital ability can be assessed. After all, the competent regular services in a preventive and restorative practice still represent the "nuts and bolts" of the profession of dentistry.

James D. Purves, DDS
Toronto, Ont.

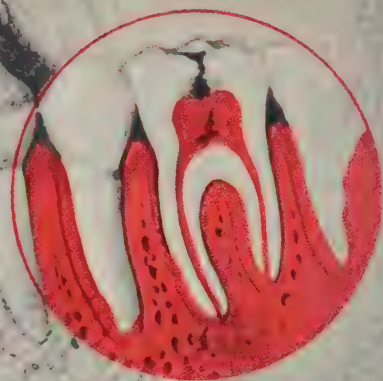
Use of Ampicillin in Dentistry

Ampicillin has recently been described as a probable useful antibiotic in dentistry (de Vries J. and Francis L. E.: Broad spectrum antibiotics: tetracycline, ampicillin and cephalixin. *J Canad Dent Assn*, 40:385, 1974). Actually, ampicillin, considered in context with other antibiotics available for the treatment of oral infections, is not as satisfactory a choice as when considered on its own merit, and in view of the relative ample number of these better alternatives, should be withheld by the dental clinician unless specifically indicated by sensitivity testing. Consider the following points:

- 1) nearly all Gram-positive organisms which are sensitive to ampicillin are also sensitive to penicillin¹ (group D streptococci possibly excepted; however, the latter is not an important cause of oral infections²);
- 2) the Gram-positive organisms producing oral infections of dental origin are more sensitive to penicillin than to ampicillin;³
- 3) the Gram-negative organisms which generally are profoundly sen-

- sitive to ampicillin but less sensitive or insensitive to penicillin (*Proteus*, *Hemophilus*, *Salmonella* and *E. coli*) are not particularly important from an oral infection standpoint², and the other Gram-negatives are not particularly sensitive;³
- 4) ampicillin is the drug of choice in treatment of respiratory infections due to *Hemophilus influenza*, pyelonephritis caused by *E. coli*, and urinary tract infections and endocarditis caused by group D streptococcus, which are non-dental categories of infections for which ampicillin has the greatest efficacy.^{1,3} The number of resistant infections in these categories is progressively increasing³ due to misapplication of this drug by dental and medical clinicians to other categories of infections, thereby selectively reducing, in the total population of bacteria, those bacteria sensitive to ampicillin, and favouring their replacement by resistant strains;
 - 5) ampicillin has no advantage to penicillin against organisms (staphylococci) which secrete penicillinase;
 - 6) ampicillin is more allergenic than penicillin, resulting in any of the hypersensitivity phenomena known to penicillin, and in addition, producing a maculopapular rash or urticaria with an incidence far in excess of that of penicillin⁴ (up to seven per cent or more).
- Further, it had also been asserted that ampicillin is the only one of the many semi-synthetic penicillins available of practical use in dentistry. In fact, the semi-synthetic penicillins cloxacillin and methicillin are penicillinase-resis-

**when patients
have this problem
and penicillin
allergy too**



Dalacin C

(clindamycin, Upjohn)

“Clindamycin [Dalacin C] appears to be an acceptable substitute for penicillin as a prophylactic antibiotic prior to oral surgical procedures in patients with true or alleged allergies to penicillin when antibiotic treatment is indicated.”¹

1. Wiesenbaugh, J.M., Jr. (Mar., 1971). 31(3):302.

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Indications: Dalacin C is indicated in infections caused by organisms susceptible to its action, particularly streptococci, pneumococci, and staphylococci. In addition to the above organisms, Dalacin C Phosphate Sterile Solution is indicated in certain infections due to anaerobic bacteria, including *Bacteroides* species, *Peptostreptococcus*, anaerobic streptococci, *Clostridium* species and *Proaerophilic* streptococci. As with all antibiotics, *In-vitro* susceptibility studies should be performed in conjunction with clindamycin therapy.

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 Mild to moderately severe infections — 150 mg every 6 hrs.
 Severe infections — 300 mg or more every 6 hours.
Children (over 1 month of age):
 Mild to moderately severe infections — 8 to 16 mg/kg/day divided into three or four equal doses.
 Severe infections — 16 to 20 mg/kg/day divided into three or four equal doses.

DALACIN C PALMITATE Flavoured Granules for oral solution

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Adults:
 Intramuscular — 600 to 2400 mg**/day in two, three, or four equal doses. Intramuscular injections of more than 70 mg in a single site are not recommended.
 Intravenous — 900 to 4800 mg**/day by continuous drip in three or four equal doses, each infused over 20 minutes or longer. Administration of more than 1200 mg in a single one hour infusion not recommended.***
Children (over one month of age):
 Intramuscular — 10 to 30 mg**/kg/day in two, three or four equal doses.
 Intravenous — 15 to 40 mg**/kg/day by continuous drip in three or four equal doses, each infused over 20 minutes or longer.***
 Depending on the severity of the infection.

Dalacin C Phosphate Sterile Solution should not be given undiluted intravenously; always administer in an infusion. See product monograph supplied with each package for complete dosage information and infusion rates.

Absorption of Dalacin C is not appreciably modified by ingestion of food and Dalacin C may be taken with meals with no significant reduction of the serum level.

Precautions: With β -haemolytic streptococcal infections, treatment should continue for at least ten days to diminish the likelihood of subsequent rheumatic fever or glomerulonephritis.

Contraindications: Generally well tolerated. Usual antibiotic side effects — abdominal discomfort, loose stools or diarrhoea, nausea, vomiting. Cases of severe and persistent diarrhoea have been reported and have at times necessitated discontinuance of the drug. This diarrhoea has been occasionally associated with blood and mucus in the stools and has at times resulted in an acute colitis. Transient leucopenia (leukopenia), or abnormalities in liver function tests have been observed in a few instances. Mild hypersensitivity reactions (skin rash and urticaria) have been observed on rare occasions.

Use with caution in patients with a history of asthma and other allergies. As with other antibiotics, periodic liver function tests and blood counts should be performed during prolonged therapy. Not indicated in patients who have demonstrated sensitivity to lincomycin. Safety in pregnancy not established. Dalacin C is not indicated in newborns. When Dalacin C Phosphate is administered to infants, appropriate monitoring of organ system functions is desirable.

AVAILABILITY:

DALACIN C CAPSULES

150 mg Capsules — Each capsule contains clindamycin hydrochloride hydrate equivalent to 150 mg clindamycin base. Supplied in bottles of 16, 100 and 500.
75 mg Pediatric Capsules — Each capsule contains clindamycin hydrochloride hydrate equivalent to 75 mg clindamycin base. Supplied in bottles of 16 and 100.

FLAVOURED GRANULES

Dalacin C Palmitate — When the contents of the bottle are dissolved in the quantity of water indicated on the label, each 5 ml contains clindamycin-2-palmitate hydrochloride equivalent to 75 mg clindamycin base. Supplied in 10 ml and 100 ml bottles.

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tant penicillins (the former for oral use and the latter for intramuscular) with high efficacy (although not as high as that of penicillin), and can be used instead of penicillin where staphylococcus is suspected or cannot be overruled on the basis of a stat Gram-smear, or where a culture has demonstrated staphylococcus³.

1. Goldsand G. Antibiotic therapy — current concepts. Royal College of Physicians Western Regional Meeting, Victoria, B.C., September 1971.
2. Burnett G. W. and Scherp H. W. Oral microbiology and infectious disease, 3rd ed. Baltimore, Williams and Wilkins, 1973.
3. Weinstein L. General considerations, and the penicillins. Chapters 55, 57. In: The Pharmacological basis of therapeutics. (Goodman L. S. and Gilman A. eds.) New York, MacMillan, pp 1154-1176, 1204-1241, 1970.
4. Croydon E. A. P. et al. Prospective study of ampicillin in rash: report of a collaborative study group. Brit Med J 1:7, 1973.

On a récemment décrit l'ampicilline comme antibiotique efficace probable en dentisterie (de Vries J. et Francis L. E. Broad spectrum antibiotics: tetracycline, ampicilline and cephalixin. J Canad Dent Assn 40:385, 1974). Toutefois, dans le contexte des antibiotiques actuellement disponibles pour le traitement des infections buccales, l'ampicilline n'enregistre aucune efficacité supérieure, ni même une efficacité égale, et en vue du nombre des alternatives meilleures, devrait être retenue par le clinicien dentaire, à moins qu'elle soit indiquée par un test de sensibilité aux antibiotiques. Considérons ceux qui suivent:

- 1) chez les microorganismes grampositifs qui sont sensibles à l'ampicilline, presque tous sont également sensibles à la pénicilline (à l'exception possible du streptococcus groupe D¹. Toutefois celui-ci n'est pas une cause importante des infections buccales²);
- 2) chez les microorganismes grampositifs qui causent les infections buccales, ils sont plus sensibles à la pénicilline qu'à l'ampicilline³;
- 3) chez les bactéries gramnégatives qui sont d'habitude plus sensibles à l'ampicilline qu'à la pénicilline

(Proteus, Hemophilus, Salmonella et le colibacille), elles n'ont pas d'importance au point de vue des infections buccales²; d'ailleurs, les autres bactéries gramnégatives n'ont pas de sensibilité à l'ampicilline³;

- 4) pour les infections respiratoires par l'Hemophilus, le pyelonephrite par le colibacille et les infections des voies urinaires et l'endocardite par le streptococcus groupe D, qui sont toutes infections non-dentaires, l'ampicilline a une grande efficacité^{1,3}. Cette efficacité risque d'être détruite par une mauvaise application de cette drogue par les cliniciens médicaux et dentaux aux autres catégories d'infections de telle façon qu'elle se trouve plus souvent dans le milieu bactériel, entraînant une augmentation des souches résistantes³;
- 5) l'ampicilline n'a aucun avantage à la pénicilline contre les microorganismes qui produisent la pénicillinase;
- 6) l'ampicilline est plus allergène que la pénicilline, ce qui peut être l'origine des exanthèmes et de l'urticaire pour sept pour cent des patients⁴, ce qui est en addition aux manifestations allergiques qui peuvent se produire avec n'importe quel membre de la famille de pénicilline.

Par ailleurs, on avait affirmé que l'ampicilline est la seule parmi plusieurs pénicillines semisynthétiques qui a l'utilité pratique en dentisterie. En fait, les semisynthétiques cloxacilline et méthicilline (celle-ci pour l'administration intramusculaire et celle-là pour l'administration orale) sont des pénicillines efficaces (mais pas si efficace que la pénicilline) et résistantes à la pénicillinase, et qui peuvent être utilisées au lieu de la pénicilline où le staphylocoque est soupçonné ou ne peut être écarté au moyen d'un frottisgram, ou démontré par une culture³.

Robin K. Anderson,
 Quebec City, Que.
 Formerly associate professor in
 therapeutics,
 Department of Oral Biology,
 University of Alberta

Un défi à l'amélioration

L'Association dentaire canadienne aura bientôt à se prononcer sur un certain nombre de propositions entraînant des changements radicaux dans son organisation, ses programmes, ses priorités et ses modes de financement. Ces propositions constituent l'essentiel du rapport d'une équipe de travail mise sur pied par le Conseil des gouverneurs à sa réunion annuelle de 1973.

Les membres de cette équipe, où toutes les provinces étaient représentées, ont fait montre d'un intérêt réel pour la profession des dentistes au Canada. Ayant mis de côté tout esprit de clocher, ils ont voulu présenter des propositions qui traduiraient leur conviction profonde que les dentistes du Canada devaient disposer, au niveau national, d'une voix puissante capable de donner une vie nouvelle à leur association. La plupart des politiques médicales importantes prennent forme au niveau fédéral et l'extension des services des régimes d'assurance-maladie de façon à inclure les soins dentaires devra tenir compte de certaines politiques fédérales en matière de santé. La profession des dentistes doit avoir sa place dans les corridors du pouvoir. Pour gagner cette place, pour être entendue et respectée, l'Association doit représenter véritablement l'opinion de tous les dentistes canadiens.

L'équipe de travail croit fermement que la voix collective des dentistes canadiens saura faire montre de sagesse, et plaider pour le bien-être réel des Canadiens. Nous déplorons vivement que, par le passé, les voix qui se sont fait entendre en provenance de la profession faisaient souvent état de conflits internes et que le message parvenu aux gouvernements et au grand public ne reflétait pas réellement le sens du dévouement et des responsabilités des dentistes en général.

L'équipe de travail a proposé pour l'Association un concept d'organisation totalement différent. Nous croyons que la structure de notre organisme doit trouver sa base dans l'engagement individuel de chaque médecin. La direction de l'Association doit être vraiment représentative, cautionnée par des élections, et son pouvoir doit s'appuyer sur la participation individuelle des membres.

Les résultats de notre sondage indiquent que les dentistes canadiens ont une idée assez précise des mesures à prendre pour améliorer leur profession et qu'ils sont capables de fixer leurs priorités par l'intermédiaire d'un organe de direction vraiment représentatif.

Le moment de la décision approche. Il faudra que le conseil de direction fasse preuve de clairvoyance et de sens politique pour guider l'Association dans chacune des étapes de sa métamorphose, et en faire un organisme vraiment représentatif des dentistes canadiens.

Challenge for Change

The Canadian Dental Association is about to be challenged by proposals for dramatic changes in its organization, programs, priorities and financing. The proposals will be the substance of the report of a Task Force which was established on the instruction of the Board of Governors at the Annual Meeting in 1973.

The members, drawn from each province, proved themselves to be committed to the welfare of Canadian dentistry. They brushed aside parochial interests and sought proposals which would translate their basic conviction that the dentists of Canada need a strong national voice into a new and brighter future for the Canadian Dental Association. Most major health policies begin at the national level and when health insurance plans expand to provide for dental care they are certain to involve federal policies. The dental profession must have a place of influence in the corridors of political power. To have a place, to be heard, to be respected, the Association must genuinely represent the views of the rank and file of Canadian dentists.

The Task Force believes the collective voice of Canadian dentists will be a wise voice committed to the welfare of Canadians. We regret that in the past the voices of dentistry have sometimes been engaged in internal conflict and the resultant messages to governments and the public have carried impressions which do not reflect fairly the dedication and responsibility of individual dentists.

The Task Force report will call for an entirely new organizational concept for the Association. We believe the structure must be built from the grass roots commitment of individual dentists. The governance should be truly representative, based on elections, and the power of the Association should be drawn from the individual membership.

We were encouraged by the results of a survey to believe that Canadian dentists have a good sense of what is required and that they can order their priorities well through a broadly representative governing body. The moment of decision is approaching. The times call for vision and statesmanship by the present Board of Governors to guide the Association through a metamorphosis to a new form, fit and able to represent the dentists of Canada.

John B. Macdonald
Task Force Chairman
Président de l'équipe de travail



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Task Force on CDA organization

The Executive Council of the CDA received the final Report of the Task Force on CDA organization at its August 12-14 meeting. The Report was prepared under the chairmanship of Dr. J.B. Macdonald, executive director of the Ontario Council of Universities. Members of his Task Force were appointed by each of the corporate members.

Copies of the report are now in the hands of corporate members and Council encourages all CDA members to give the report careful and detailed study.

Proposed Timetable

The exigencies of time have made it impossible to exactly follow the schedule of events for consideration of the Task Force report as proposed to the 1973 Board.

Council has, therefore, recommended an alternative schedule:

Resolved

That the Board approve the following sequence of steps for the study and implementation of the Task Force Report.

- (1) Open discussion of the Report by reference committee No. 4, Thursday afternoon (October 3). (Note: no other reference committees will be meeting at that time).
- (2) The reference committee make relevant comments on the Report but refrain from making formal resolutions on which the Board must act. Excluded from this recommendation are reference committee and Board actions on the Task Force recommendation and resolution contained in the Report itself (see page 65) and on which the Task Force recommends immediate action.
- (3) Open discussion of the Report at a Board of Governors' plenary session on October 5. With the exclusions noted in (2) above, no formal action to be taken by the Board.
- (4) Board and Task Force members, equipped with the knowledge gained from the two open discussions of the Report during the October Board sessions, will again discuss the recommendations with their respective corporate members.
- (5) A special meeting of the Board will be called later in

1974 at which final opportunity for comment and action on the Report will be provided. To implement this suggested schedule, a special meeting of the Board will be necessary.

Special Meeting

Resolved

That a special meeting of the Board of Governors be called for Monday and Tuesday, December 2 and 3 for the purpose of taking action on the Report of the Task Force and adopting related amendments to the Association By-laws.

Extensive Study

The Executive Council has already given the Task Force Report extensive study. It congratulated Dr. Macdonald and all members of the Task Force for the expeditious manner in which they completed their assignment and for the excellence of the Report itself.

At its meeting, the Council agreed in principle with the general philosophies enunciated in the Report. As an aid to its own further study of the Report and to that of the Board, Council identified a number of points in the Report on which it would like further clarification and/or elaboration from Dr. Macdonald, who was not present during the Council's discussion.

These points include such matters as the choice of names for member categories, for "divisional" membership and "Bureau of Economic Research." Clarification will be sought on the composition of the suggested General Council, and of the Executive Council, and the recommended reorganization of Councils.

As already announced, Dr. Macdonald has agreed to be present at the Board meetings to provide explanations on the Report and to be the keynote speaker at the Opening Ceremonies of the 1974 Convention. All of this provides an opportunity for the membership at large to become acquainted with the philosophies and objectives behind the Task Force recommendations.



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PRECAUTIONS: Acetylsalicylic acid may depress the plasma prothrombin concentration. Care, therefore, should be exercised when acetylsalicylic acid and anticoagulants are prescribed concurrently.

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tests, and slightly increase the renal excretion of uric acid.

Acetylsalicylic acid preparations should be used with caution in patients with peptic ulcer. Analgesic abuse (excessive and prolonged therapy) has been associated with renal nephropathy.

Codeine should be given with caution to patients with severe respiratory depression. The depressant effect of codeine may be enhanced by the concurrent administration of sedatives and tranquilizers.

ADVERSE REACTIONS: Skin rash, gastrointestinal bleeding, headache, nausea, vomiting, constipation, vertigo, ringing in the ears, mental confusion, drowsiness, sweating and thirst may occur with average or large doses.

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Dr. and Mrs. George Frederick Clarke at their home in Woodstock. The New Brunswick government recently honored Dr. Clarke by naming a mountain in Carleton County after him.

NEW BRUNSWICK HONORS DENTIST AND AUTHOR

The government of New Brunswick recently paid tribute to one of the province's leading dentists and authors, George Frederick Clarke.

The government has named a mountain in the Parish of Aberdeen, Carleton County, after Dr. Clarke in recognition of his great contribution to the literature of the province and his keen interest in archaeology and the native peoples of New Brunswick.

Dr. Clarke, now 90 years old, graduated from the Philadelphia Dental School in 1913. He is a life member of

the New Brunswick Dental Society and, in 1969, was awarded an honorary degree from the University of New Brunswick.

In addition to his talents in the field of dentistry, Dr. Clarke is highly renowned as an author, poet, angler, historian, archaeologist and authority on Indian culture. During his long and distinguished career he has written 16 books and more than 60 articles. His latest book *Someone Before Us* is considered the most important contribution

to the archaeology and history of the Maritime Indians which has ever been written.

For more than 50 years Dr. Clarke has devoted much of his spare time tracing the footsteps of the Micmac and Maliseet Indians and of pioneer settlers from Europe. His archaeological collection of Indian stone tools and weapons, most of which he gathered himself at various sites he discovered throughout the province, is considered to be one of the finest anywhere.



H. L. Dougherty (left), chairman of the American Association of Orthodontists' Council on Research, presents award to H. L. Henry of Brantford, Ontario.

CANADIAN WINS RESEARCH AWARD IN WORLD-WIDE COMPETITION

Howard L. Henry of Brantford, Ontario, was presented with a research essay award of special merit in the Milo Hellman Research competition during the 74th session of the American Association of Orthodontists in Houston, Texas.

The award, presented by H. L. Dougherty, chairman of the AAO's Council of Research, is aimed at recognizing excellence in research related to orthodontics and is open to world-wide competition. This year four other awards were given to recipients from France, Norway and the U.S.

Dr. Henry received his dental degree from the University of Toronto in 1969, completed a postgraduate dental internship at the Albert Einstein Medical Center in Philadelphia in 1970 and his Masters of Science and specialty training in orthodontics at the University of Manitoba in 1973. He presently runs a private practice specializing in orthodontics in Brantford and is on the

orthodontic staff at the University of Toronto's Faculty of Dentistry.

Dr. Henry's research, entitled "Craniofacial Changes Induced by Orthopedic Forces in the Macaca Rhesus Monkey", was carried out at the University of Manitoba under Dr. John Cleall. The work was supported by a Medical Research Council Grant and Dr. Henry was awarded a Medical Research Council of Canada Fellowship for his research.

The effects of various types of very heavy forces on the craniofacial complex of growing monkeys were investigated. A new refinement of the implant-cephalometric roentgenographic method was developed to permit the quantitative assessment of skeletal changes. All monkeys presented normal occlusions pre-experimentally.

Posteriorly-directed heavy extraoral forces and laterally-directed heavy expansive forces (rapid maxillary expansion) were applied alone and in combi-

nation to the maxilla in different groups of monkeys. Very heavy extraoral traction created extreme Class III malocclusions with severe anterior crossbites due to marked posterior movement of the upper facial bones and maxillary teeth. The major part of the posterior movement of the maxillary dentition was due to posterior movement of the entire maxilla and contiguous bones rather than posterior movement of the maxillary teeth within the maxilla. Extensive and widespread skeletal changes were demonstrated including downward and backward rotation of the facial bones with respect to each other and the cranial base. The anterior cranial base rotated with respect to the posterior cranial base and the shape of the cranial vault was altered.

The extent of the skeletal changes in this experiment demonstrated that the craniofacial complex of the growing monkey is amenable to orthopedic manipulation and suggested the potential of very heavy forces for the correction of abnormal skeletal relations in the human child.

CDA Executive Council thanks Paul Simard

During its August 12-14 meeting, the CDA Executive Council tendered a vote of thanks to Paul Simard in recognition of his valuable service to the *Journal of the Canadian Dental Association*.

Dr. Simard was appointed associate editor, responsible for all French content in the *Journal*, in April, 1972. The increasingly heavy responsibilities of his position as director of the School of Dentistry at Laval University made it necessary for him to resign his editorial duties in June of this year. He is succeeded by Gérard de Montigny.

A 1944 dental graduate of the University of Montreal, Dr. Simard holds a diploma in public health from the university's School of Hygiene. He has been active in various provincial, national and international dental organizations and was founding editor of the *Quebec Dental Journal*.



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THREE DENTAL SCHOOLS TO SHARE IN SPECIAL CAPITAL FUND CONTRIBUTION

Three dental schools will share in a special CFDE Capital Fund contribution which becomes valid this month.

On August 2, 1973, Lorne E. MacLachlin, an Ottawa dentist, made a personal contribution of \$45,000 to the Canadian Fund for Dental Education's Capital Fund on the understanding that the annual income would be shared equally by the dental schools at the University of Toronto, McGill University and Dalhousie University. Dr. MacLachlin has, throughout his career, been both interested and involved at all levels of dental education, with particular emphasis in the field of prosthodontics. He has thus directed that the schools use the money to provide financial assistance for teacher training in clinical prosthodontics. The first cheques were mailed to the respective dental schools on September 1 of this year and similar cheques will be forwarded annually in perpetuity.

Dr. MacLachlin completed a number of postgraduate courses in oral surgery



Lorne E. MacLachlin

and prosthodontics during his career and is well-known and highly respected for his work in his special field of interest, prosthodontics. An avid proponent of continuing education in dentistry, Dr. MacLachlin availed himself of every opportunity to keep himself

abreast of all the latest techniques and the newest teaching concepts. He also taught numerous courses in various levels of organized dentistry.

Dr. MacLachlin's interests have not been limited to his chosen profession alone. He is interested in wild-life conservation in Canada and his work has been recognized by the federal government. An expert photographer, he sometimes shows slides of small animals and birds which inhabit the Atlantic Flyway.

Another project which has brought him great satisfaction is his work with the Springhill Cemetery near Ottawa, considered to be one of the most beautiful small cemeteries in the country. A sturdy solid brick schoolhouse built in 1884 sits on a hill overlooking the cemetery. Dr. MacLachlin bought the property and presented it as a family memorial to the Board of Trustees. It has now been transformed into a lovely chapel which continues to serve the community.

SURVEY POLICY COMMITTEE APPOINTS NEW CHAIRMAN

James D. McLean, dean of the Faculty of Dentistry at Dalhousie University, has been named chairman of the CDA Council on Education's Committee on Survey Policy.

Dr. McLean graduated from the University of Toronto's Faculty of Dentistry in 1942 and joined the Canadian Dental Corps for service in England and Northwest Europe. He attended the University of Minnesota for a one-year postgraduate course in fixed partial prosthesis prior to joining the Faculty of Dentistry at the University of Alberta in 1947 as part-time lecturer and associate professor in this specialty. He joined the staff at Dalhousie University in 1953 and was appointed

dean of the Faculty of Dentistry a year later.

Dr. McLean has served on various councils and committees of the Canadian Dental Association since 1949.

Other members of the Committee on Survey Policy include four members appointed by Council: A. G. Hannam, Vancouver; D. R. Gratton, Plymouth, Michigan; W. J. Dunn, London; one member appointed by the National Dental Examining Board — D. B. Proctor, Winnipeg; one member appointed by the Royal College of Dentists of Canada — J. F. Cleall, Winnipeg; one member appointed by the Association of Canadian Faculties of Dentistry — J. P. Lussier, Montreal;

one member appointed by the Registrars — G. E. Decker, Edmonton; one member appointed by the Canadian Dental Nurses and Assistants Association — Darlene Munro, Vancouver; and one unnamed member appointed by the Canadian Dental Hygienists Association.

New slate of officers for Saskatoon Dental Society

The Saskatoon and District Dental Society recently elected its new executive for the 1974-75 term of office. E. Zak is president, J. Shiffman is vice-president, and D. Clements is secretary.

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Dental services eligible for Alberta Cleft Palate/Lip Program

Deputy Minister of Health Services, W.A. Cochrane, has announced that the Alberta government will establish a comprehensive treatment program for the management of cleft palate/lip syndrome, for Alberta residents of all ages. Dental treatment for these patients is included as a benefit under the Alberta Health Care Insurance Act. Funds will be provided by the Medical Services Division of the Department of Health and Social Development, under the authority of The Treatment Services Act. Payment of claims for dental services will be administered by the Alberta Health Care Insurance Commission.

This move by the Alberta government removes the last obstacle to effec-

tive and comprehensive treatment. To be eligible for dental services, all persons with cleft palate/lip syndrome must be registered and assessed by the Cleft Palate Clinics at the University of Alberta Hospital and the Alberta Children's Provincial General Hospital. The clinic would recommend and co-ordinate the dental treatment and the Director of the Cleft Palate Clinic would be responsible for reviewing the dental work done prior to approval of dental charges.

The Alberta Dental Association and the Alberta Medical Association have been asked to comment on the program before implementation.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on July 31, 1974:

<i>Guaranteed Fund</i>	\$11.070
<i>Fixed Income Fund</i>	\$14.011
<i>Common Stock Fund</i>	\$26.613

Total assets (market value) of the plan were \$17,015,695.16.

The following portfolio purchases and sales occurred during the preceding month: Bought, 23,782 units Classified Fund Conventional Mortgage, \$100,000 IAC discount, 10,000 shares Russel Steel, \$300,000 CMB Holdings Ltd. note, \$400,000 City Corp. Financial Services note, \$100,000 IAC Ltd. convertible debenture. Sold, \$200,000 IAC discount note, \$100,000 IAC discount note, \$300,000 Ford Motor Credit note, \$400,000 City Corp. note.

For further information write to CDA-sponsored Pension and Insurance Plans, 230 St. George St, Toronto, Ont. M5R 2P1.

First stage of BC Dental Research Project completed

British Columbia's Children's Dental Health Research Project, a co-operative endeavour sponsored by the provincial government and the College of Dental Surgeons, officially got underway in mid February with the appointment of a research staff composed of dentists and economists. The research staff takes its direction from a co-ordinating committee appointed by the government and the College.

So far, the work of the committee and staff has been largely that of fact finding. The study is structured into four contingent parts and the first part, a study of the incidence of dental disease in the province, is now completed.

The first part of the study has required detailed population projections and the analysis of a large amount of data from various sources, setting the stage for succeeding parts of the study. The findings indicate a great deal of work to be done within the child population. In fact, statistics indicate a couple of million surfaces in need of immediate repair.

The second part of the study is designed to "cost out" various types of proposals to deal with the problems identified in the first area of study. A wide range of proposals is being studied, ranging from simply utilizing existing resources of dental personnel to the development of specially constituted salaried teams. The committee is now studying a dozen possible schemes while the research staff computes the expected costs of implementing each type of proposal. After the initial costing the committee plans to identify the most feasible alternatives which will then be subjected to further study.

The third area of study will concentrate on the cost of educating dental personnel for the implementation and operation of each of the proposals selected for final consideration.

The fourth and last area of study, which will not begin until the number of proposals is reduced to a manageable set of alternatives, requires the de-

velopment of the appropriate administrative system and the costs associated with the administration of each approach.

To expand representation and include as much professional and expert advice as possible, the co-ordinating committee has appointed four sub-committees to study the problems of each of the four study areas. The dental profession is heavily represented on these sub-committees.

At the present time, no decisions have been made which favor any one particular approach. However, it is clear that existing manpower would have great difficulty coping with the expected patient load, particularly in the absence of effective preventive programs or without the assistance of expanded function auxiliaries. In view of this, serious attention must be given to the development of effective preventive programs and the development of co-workers who would enable the dentist to increase his productivity.

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astic about going to work, and he's got more time and spirit to enjoy his family, friends and hobbies. He'll tell you a lot of things. So ask the man who owns one...then ask your dealer what it takes to be just like him. And while you're at it, ask about the incomparable CHAIRMAN, Pelton & Crane's exciting new approach to patient positioning.



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In memoriam



J. J. Gustave Ratté

J. J. Gustave Ratté

It is with regret that the Canadian Dental Association announces the death of Joseph Jules Gustave Ratté in Quebec, June 29, at the age of 70. A past president of the CDA, Dr. Ratté received many honors during his distinguished career in dentistry including the Canadian Centennial Medal in 1967.

A 1929 dental graduate of the University of Montreal, Dr. Ratté operated a general practice in Quebec City. He held memberships in a wide range of dental and health organizations and often served on their various councils and committees. He was a governor of the College of Dental Surgeons of Quebec and a member of the Quebec Dental Examining Board. In 1965, he was elected president of the International College of Dentists.

Dr. Ratté was the Canadian Dental Association's delegate to the

Fédération Dentaire Internationale at its 1965 meeting in Vienna and the 1967 meeting in Paris. He also served as a member of the Laval University Health Sciences Centre Planning Committee in 1967 and was a member of the Permanent Committee on Health Sciences.

In addition to the Centennial Medal, Dr. Ratté was awarded the "Bene Merenti" Papal Medal for services rendered to Laval University and the City of Paris Silver Medal for outstanding professional service.

Gustave Ratté devoted his life to the cultural and social advancement of his chosen profession. He prepared numerous reports on social and professional aspects of dentistry for municipal, provincial and federal authorities. He was also a driving force behind the establishment of a dental school at Laval University.

William Wolfe Breslin

The profession of dentistry has been deprived of one of its most outstanding members in the death June 15 of William Wolfe Breslin of Toronto at the age of 72. Dr. Breslin was instrumental in founding a number of societies in organized dentistry and made a large contribution to his community through selfless work with such social agencies as the United Jewish Welfare Fund and the Community Chest (United Appeal).

Dr. Breslin was a native Torontonian, educated both in Toronto and, at

the postgraduate level, in the United States. He was the first Canadian Oral Surgeon to be examined and the first to be accepted into the American Society of Oral Surgeons in 1947, making this group international in scope. He practised in Toronto from 1930 to 1971 and was head of the oral surgery department of New Mt. Sinai Hospital.

As co-founder of the Toronto Society of Oral Surgeons, he was thus instrumental in the establishment of the Canadian Society of Oral Surgeons. He was also a charter member of the Royal College of Dentists of Canada and a Fellow of the International College of Dentists. He served as a member of the Banting Institute board and of the University of Toronto senate for 16 years.

Deaths

Clarke, George V.T. 64. Edmonton. University of Alberta, 1948. 20-7-74. Survived by Stella (wife); Jack, George and Ralph (sons); and Lois (daughter).

Golding, James William. 77. Brampton, Ont. Royal College of Dental Surgeons of Ontario, 1920. 12-7-74. Survived by Winnifred (wife) and Douglas (son).

Hebert, Armand J. 80. Montreal. University of Montreal, 1916. June 1974.

Leroux, Fernand. 68. Montreal. University of Montreal, 1932. 15-5-74.

Ratté, Joseph Jules Gustave. 69. Montreal. University of Montreal, 1929. 29-6-74. Past-president of CDA.

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CDA CONGRES NATIONAL ADC CONVENTION

TORONTO
OCT. 6-9, 1974

CONDENSED PROGRAM

MONDAY — OCTOBER 7

MORNING — 9:30-11:30 a.m.

Room

- * 1. Table Clinics (20)
Civic Ballroom
2. **Ralph Phillips**, Indianapolis
Changing concepts in dental materials
Ballroom C.
3. Panel
Ballroom W.

George Beagrie, Toronto
(Moderator)

James Avery, Ann Arbor

Frances Greenwood, Toronto
B.J. Sessle, Toronto

Dental pain: its origin and control

Cinema I

4. **Albert Richards**, Ann Arbor
New developments in radiography

Dominion S.

5. Grieve Memorial Lecture
Robert Moyers, Ann Arbor
What is good orthodontics?

Dominion N.

6. **Paul Chapnick**, Toronto
Common pre-operative and post-operative surgical problems

Cinema II

AFTERNOON — 2:00-4:30 p.m.

Dominion S.

1. Capsule Clinics:
Douglas Stoneman, Toronto
Dental disease or malignancy?
Jack Dale, Toronto
Serial extraction (or preferably) guidance of occlusion

Ian Schofield, London
The inferior dental nerve and its canal

2. **Ralph Phillips**, Indianapolis
Changing concepts in dental materials

Paul Sills, London
Faults in removable partial denture construction

Ballroom C.

3. **Paul Sills**, London
Faults in removable partial denture construction

Ballroom W.

Roy Rasmussen, Calgary

David Way, London

Gene Jackson, Toronto

National/Provincial Insurance and Investment Plans

Ballroom Centre

5. **Lt. Col. Noel H. Andrews**, Base Borden
Current periodontal therapy — the impact of recent research findings

Ballroom Centre

6. **Mjr. E.D. Cragg**, Base Borden
Preventive prosthodontics — the overlay denture

Cinema II

** 7. Scientific Movies

WEDNESDAY — OCTOBER 9

MORNING — 9:30-11:30 a.m.

Room

Cinema I

1. **Robert Locke**, Toronto
The application of acupuncture to dentistry

Cinema I

2. **Ronald Jordan**, London
What's new in operative dentistry?

Civic Ballroom

Dominion S.

3. **Paul Chapnick**, Toronto
Common pre-operative and post-operative surgical problems

Dominion N.

4. **John D. Spouge**, Vancouver
The pathology of periodontal disease
Co-sponsored by the Royal College of Dentists of Canada.

Cinema II

** 5. Scientific Movies

AFTERNOON — 2:00-4:30 p.m.

Dominion S.

1. Capsule Clinics

Larry Pedlar, Toronto

Centric records for fixed prosthodontics

James Anderson, Toronto

The use of the custom incisal guidance to simplify the restoration of occlusal schemes

10. **Norman Aurlick**, Toronto

The Revascularization of Mandibular Fractures

- + 11. **Steven Peiser**, Toronto

A Hawley Appliance versus a Nite-Guard as a Reasonable Alternative

12. **Mark Zimmerman**, Toronto

Entertainment — 'Critters and Things'

- + 13. **Thomas McKean**, Willowdale

Repair of Fractured Porcelain Gold — with Cyano-Veneer

- + 14. **Peteris Apse**, Sutton West

James Jacques, Whitby

Pins in Restorative Dentistry

15. Dental Assistant(s) Presentation

To be announced

16. Dental Assistant(s) Presentation

To be announced

- 17-26 Ten (10) Student Clinics re: CDA Student Clinic Competition representing all Canadian dental schools, names and titles to be announced.

TUESDAY 9:30 a.m. - 11:30 a.m.

CIVIC BALLROOM

1. **Carlos Boracchia**, Toronto

Hand-Ream Post Core Techniques

2. **Robert Turnbull**, Toronto

The Role of Free Gingival Autografts in Periodontal Therapy

3. **Larry Levin**, Hamilton

Myofunctional Therapy in General Practice

4. **Howard Dexter**, Malton

Nitrous Oxide-Oxygen Sedation Analgesia — Advantage in Dentistry

5. **Berril Garshowitz**, Toronto

Preventing Discouragement in Plaque Control Program

6. **Daniel Lipman**, Toronto

Six Years of Implant Dentistry

5. **G. Winston Backman**, Winnipeg
Plaque control
Cinema II
6. Scientific Movies
AFTERNOON—2:00-3:30 p.m.

1. **Donald Kramer**, Toronto
The porcelain fused to gold restoration: success or failure?
Civic Ballroom

TUESDAY—OCTOBER 8

MORNING—9:30-11:30 a.m. Room

1. Table Clinics (20)
Civic Ballroom
Cinema I
2. **Terry Kavanagh**, M.D., Toronto
Coronary heart disease and physical fitness
Cinema I
3. Panel
H.B. Cotnam, M.D., Chief Coroner, Toronto (Moderator)
Dominion S.

- James Purves**, Toronto
John Hillsdon-Smith, Pathologist, Toronto
Det. Insp. W.R. Bennett, OPP
The unknown body — the role of the odontologist in the forensic team
Dominion N.

4. **Redvers Warren**, Toronto
African safari armed with a dental elevator
Cinema II

5. Scientific Movies
AFTERNOON—2:00-4:30 p.m.

1. Capsule Clinics
Dominion S.

- G. Winston Backman**, Winnipeg
Plaque control after periodontal defect correction
Ronald Jordan, London
Acid etch technique
John Phillips, Oshawa
Avoiding pitfalls in everyday endodontics
Civic Ballroom

2. **Donald Kramer**, Toronto
The porcelain fused to gold restoration — success or failure?
Cinema I

3. **James Ryan**, London
Hugh MacKay, Toronto
Prosthetics for the aging patient
Dominion N.

4. Panel
Russell Hugill, Toronto (Moderator)

4. T.V. Program
Norman Levine, Toronto
Preparation and restoration of deciduous teeth with stainless steel crowns
University of Toronto Auditorium Room 108

- Philip Watson**, Toronto
Gingival retraction prior to taking impressions

- Paul Morgan**, Toronto
Tissue sampling for biopsy investigation

- Bruce Hord**, Toronto
Incisal corner restoration with composite resin

TABLE CLINICS MONDAY 9:30 a.m. - 11:30 a.m. CIVIC BALLROOM

- + 1. **Fred Longe**, Detroit
Implants — An Extended Arm of Crown and Bridge (5 year report)
- + 2. **George Roby**, Detroit
The ABC's of Electrosurgery

- + 3. **Tymon Totte**, Detroit
Crown Posts for Endodontic Teeth

- + 4. **Edward Kozlow**, Detroit
Hydrocolloid Impression Materials

- + 5. **Arthur Melitor**, Detroit
Whip Mix Articulator

- + 6. **Eugene Hawthorne**, Detroit
Updated Silicone Impression Techniques — The 5 Minute Impression

7. **Howard Dexter**, Malton
Brian McLean, Mississauga
Nitrous Oxide - Oxygen Sedation Analgesia — Uses and Abuses

- + 8. **Lynn Jones**, Islington
Linda Borgh, Etobicoke
Judi Rogers, Mississauga
Preventive Pot Pourri

- + 9. **Ivanhoe Goodin**, Ottawa
An Improved and Corrosion Resistant Endodontic Suction Adapter Kit

* See Tentative Table Clinic Program

** See Tentative Film Program next page

+ Crown and Bridge Section/Detroit Dental Clinic Club.

+ Toronto West Dental Hygienists' Society.

9. **Ken Kwall**, Willowdale
Motivational Aids in a Dental Health Education Program

10. **Brian Kotzer**, Toronto
An Introduction to Precision Attachments in Crown and Bridgework

11. **Dennis Calvert**, Chicago
Nostalgic Dentistry Through the Years

12. **George Burgman**, Niagara Falls
CDA Caribbean Dental Program 1969-1974

13. **Marvin Cohen**, Akron
Intentional Reimplantation of Endodontically-treated Permanent Teeth

14. **Eric Orpana**, Toronto
Sam Kucey, Toronto
Maxillo-Facial Trauma

15. **Tony Ballard**, Toronto
Peter Lukacko, Toronto
Surgical Orthodontics

16. **Marat Truvert**, Toronto
Diet Counselling: for the birds or for your patients?

17. **Grant Joyner**, Toronto
Composites and How to Finish Them

18. **Carl Osadetz**, St. Catharines
An Alternate Method of Irrigation and Medication During Root Canal Treatment

19. **Olev Harm**, Toronto
Some Ways With Overlays

20. **Peter Rockman**, Willowdale
Extension Cone Paralleling Technique in Dental Radiography

21. **Hugh Fraser**, Brampton
Allan Patterson, Kitchener
Differential Diagnosis of Anterior Cross-Bite

22. **John Ramage**, Willowdale
Acid Etch and Masking of Tetracycline Stains

23. **Henry Levant**, Toronto
The Overdenture Principle in Removable Partial Dentures

24. **David Cowan**, Toronto
The Uses of Duralay for Crown and Bridge Procedures

25. **Mervyn Touzel**, Brockville
A Somewhat Novel Model Maker Articulator and Caliper, and Face-Bow Holder

CONVENTION NEWS

FILM PROGRAM

Monday:

- 9:30 a.m. A Firm Hand
— Addiction Research Foundation (ARF)
- 10:00 Centric Relation
- 10:12 Osseous Surgery in the Maxilla
- 10:30 Operative Hypnodontics
— American Dental Assc. (ADA)
- 10:53 Periodontal Disease:
Prevention and Early Treatment — ADA
- 11:15 Examination of the Mouth — ADA
- 2:00 p.m. What You Don't Know Can Hurt You
— Assc. Films
- 2:32 Surgical Correction of Max.
Protrusion — ADA
- 2:54 Surgical Endodontics — ADA
- 3:15 Oral Physiotherapy — U. of Iowa
- 3:28 Chrome Alloy Crown: Technique — ADA
- 3:55 Four Handed Dentistry
- 4:04 Set the Stage for Dental Health — ADA
- 4:30 Natal — Assc. Films

Tuesday:

- 9:30 a.m. Alcoholism Disease in Disguise — ARF
- 9:59 Centric Check Bite
- 10:11 Transosseous Dental Implant — ADA

- 10:32 Long Cone Technique
- 10:46 Energetically Yours — Assc. Films
- 11:00 Heart Counterattack — Int'l. Telefilm
- 2:00 p.m. Operative Hypnodontics — ADA
- 2:21 Final Max. Impressions
- 2:33 Bleaching in Endodontics — ADA
- 2:47 Dentist's Daily Seven — ADA
- 3:00 Soft Tissue Oral Surgery
— U. of Texas, Houston
- 3:17 Endodontics: Diagnosis and
Case Selection — ADA
- 3:48 Trek to the Tetons
— Kodak of Canada

Wednesday:

- 9:30 a.m. Up Pill Down Pill — ADF
- 9:55 It's Up to You — ADA
- 10:08 Correction of Macrogenia
— U. of Texas, Houston
- 10:20 Initial or Hygienic Phase of Periotherapy
— U. of Michigan
- 10:40 Periodontal Examination
Part I: Procedures — U. of Michigan
- 10:58 Australia: Picture Frontier
— Kodak of Canada

Program for Nurses' and Assistants' Convention

Program planners for the CDNAA are "Looking at tomorrow" as they complete arrangements for their National Convention '74, in Toronto, at the Downtown Holiday Inn, October 5-9. Program chairwoman is Janice Swartz.

Saturday and Sunday, October 5 and 6 are devoted to Association meetings of executives, delegates and Board of Governors.

Monday, October 7, is the start of the Convention proper, with Sidney Folb, NA, PhD., of the Clarke Institute of Psychiatry speaking on the topic of "The person with unusual anxieties." Following this presentation, Jules Geller, well-known Toronto pedodontist, will present "Pedodontic patient management — my personal approach."

After lunch, Paul Chapnick will lecture on "The impacted tooth." Dr. Chapnick is a renowned oral surgeon and his lecture promises to be interesting as well as informative. For those who are not familiar with the public health field, Sam Green, DDPH, dental director of four municipal areas, the Etobicoke and Borough of York Departments of Health, the Peel and Halton Regional Health Units, will be speaking on this aspect of dentistry.

Tuesday, October 8, is a joint day with the Canadian Dental Hygienists' Association, planned around table clinics, and speakers who will include Dr. Michael Lewis on the controversial "Saskatchewan Dental Nurse."

Wednesday will feature Wesley Dunn, Dean of the Faculty of Dentistry, University of Western Ontario, sharing his interpretation of what the future holds for the dental health team.

Social events have not been slighted in the planning process. Monday evening delegates and guests will swing to a big dance band. On Tuesday, there will be a joint luncheon with the CDHA and Wednesday, as a change of pace, part of the program will be given to Elaine Grieve of Edith Serei. She will discuss and demonstrate proper use of cosmetics.

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Dimensions of Dental Hygiene theme for CDHA Convention '74

Spectrum '74: the Dimensions of Dental Hygiene is the theme for the annual convention of the Canadian Dental Hygienists' Association, to be held in Toronto, October 6-9.

At 9:30 a.m., Monday, October 7, the program will begin with the opening address by Sherita Clark, president of the CDHA, followed by the keynote speaker, Edmond L. Truelove, chair-

man of the Department of Oral Diagnosis, University of Washington. Dr. Truelove's all-day presentation, entitled "Total patient assessment — the hygienist's role" gives an insight into how routine utilization of hundreds of diagnostic procedures by the hygienist and dentist can mean significantly better general health for dental patients.

Tuesday, October 8, the CDHA will join the Canadian Dental Nurses and Assistants' Association in the Four Seasons Sheraton Hotel for a combined series of table clinics and presentations by speakers. The day gets off to an early start with table clinics commencing at 8:30 a.m., followed by a presentation by Professor Heather Milne, Faculty of Hygiene, University of Toronto. Professor Milne will be reporting on the extensive Nutrition Canada survey which took place across Canada from 1971 to 1973.

Luncheon on Tuesday will feature a most interesting guest — Deanna Burns, from the Department of Consumer and Corporate Affairs. Miss Burns plans to offer some advice on "Consumer protection," something we can all use these days!

Following the luncheon, Michael Lewis, DDS, from the Saskatchewan Department of Health, will be reporting on one of Canada's newest auxiliaries — the Saskatchewan Dental Nurse. All dentists are cordially invited to attend this session.

Wednesday's program is headed up by a team of hygienists from Base Borden who will give a clinical presentation on expanded duties in the armed forces. Following this session is a dialogue between Marnie Forgie, Director of Dental Hygiene, University of Manitoba, and Dixie Scoles, Director of Dental Hygiene, University of Montreal, on "Education of the dental auxiliary — what comes next?" This dialogue will be moderated by Dr. Marjorie Jackson, Director of Dental Hygiene, University of Toronto.

Wednesday's luncheon in the Holiday Inn's Music Hall will be followed by the Annual CDHA Provincial Workshop. This workshop allows delegates from all provinces to meet with their executive to exchange views.

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The attitudes of Canadian dentists towards the Canadian Dental Association, 1974

G. Grant Clarke, MA
John B. Macdonald, DDS, MS, PhD
Toronto

At its 1973 annual meeting, the Board of Governors of the Canadian Dental Association resolved to establish a Task Force to make recommendations on future directions for the Association. The Task Force recognized from the beginning of its deliberations the importance of soliciting the views of the dentists of Canada on the present and future of the CDA. In the course of the first meeting in January, 1974, arrangements were discussed for a survey of the attitudes of the membership, to be undertaken mid-way in the Task Force's work. This timing meant the survey design could take into account questions and ideas which arose in the Task Force's early discussions, and the results could provide a foundation for its report and recommendations.

A draft questionnaire was tested in group interviews of representative dentists in five regions of the country. The final questionnaire was mailed to every dentist in Canada in May, 1974. After allowing two months for returns (with one mailed follow-up letter and personal contact in some regions), about 4,700 replies were received.

Analysis of response

The response accounted for approximately 55% of Canadian dentists. The Task Force was gratified with the response particularly because the form was not easy to complete for the dentist who had had little involvement with the CDA. Since the Task Force was anxious to make it as easy as possible for busy people to express their views, a card was included with every form to provide a simple way for those who did not wish to complete the form to indicate why. Less than 2% of dentists returned these cards indicating apathy or hostility to the CDA or to the survey itself.

Two per cent is a remarkably small proportion and gives some reason to suspect that neither resentment of questionnaires nor hostility to the CDA entered heavily into the

reasons why many dentists did not respond. The complexity of the questionnaire and preoccupation with other interests seems to offer a more likely explanation for failure to respond. Disinterest in organized dentistry, in general, or the CDA in particular, is another possibility. The most that can be said is that there is no evidence to suggest that answers to the questions by the non-respondents would have been substantially different from those of the respondents.

Response rates were fairly uniform across the provinces (see Table 10), with the exception of Quebec, where just 40% responded.

Response rates were fairly uniform across the provinces (see Table 10), with the exception of Quebec, where just 45% responded. Ontario and Nova Scotia were close to the average (56%) and the other provinces were in the 60% range, except for Prince Edward Island and Saskatchewan which were higher at 78% and 73% respectively.

Apart from the somewhat uneven composition by province, the sample was fairly representative of Canadian dentists on the characteristics measured. The sample contained slight over-representations of male dentists, English-speaking dentists, those in the age groups 50-59 and under 40, those located in communities with populations between 5,000 and 100,000, specialists, and those in academic employment settings. This sample bias was sufficiently small to have little effects on the overall answers. Also, as will be seen below, the effect of these variables on the nature of responses was relatively small in any event.

Present services: importance and effectiveness

Members were asked about the importance of the CDA to them and then asked to rate a number of present services on importance and effectiveness. The results are shown in Table 1. On each of these questions, a 3-point scale was used. To assist in analysis of the results, responses were

weighted to produce one composite score on each item. The scores can range from 0 to 100, with high scores representing a strong positive response.¹

"How important is the CDA to you?" Under 7% said not important, and the remainder were equally divided between very important and some importance. The composite score on this question was 70 (out of 100). Given the crisis of identity which brought the CDA Task Force into being, this is a substantial vote of confidence in the Association, even though there is room for improvement.

Ratings of the importance of present services were generally high, with an average score of 75. The highest importance scores (in descending order) were given to: representing the profession's views to the federal government, communication within the profession, and education of the public. The lowest ratings were given to library services and student services.

Members were also asked to rate the effectiveness of present services and here the Association did not fare well. The average score was 44 (31 points less than the average score for importance). The one major exception to the generally low ratings on effectiveness was the score of 71 for financial protection, i.e., pension and insurance programs.

The respective rankings on importance and effectiveness reveal that there is no correlation between the two ratings. Those functions seen as most important by the members are not perceived as being the most effectively executed. Comparison of the scores on importance and effectiveness for the various items provides a guide to those areas where members would most like to see improvement. At the top of the list is education of the public, which received an importance score of 81 and an effectiveness score of 25, a difference of 56 points. This is followed by: representing the profession's views to the federal government, representing the profession's views to provincial governments, communication within the profession, and continuing education. (The differences in scores respectively were 52, 48, 40 and 35.) In short, the profession is not impressed with the Association's performance.

Representation within provinces

Members were asked their views on intervention by the CDA in provincial affairs. Twenty-four per cent thought the CDA should represent the dental profession automatically (without necessarily having an invitation from the provin-

cial association or licensing body); 74% thought there should be representation on invitation, and 2% felt the CDA should never speak for dentistry within a province. It is interesting that 29% of those who thought the CDA very important opted for automatic representation, and only 19% of the rest did so. These results indicate that most dentists want the CDA to exercise a leadership role and want the strength of the Association to be available to the provinces when the provinces feel a need for support.

Possible future services

The Task Force identified a number of areas where the CDA might consider strengthening present activities or establishing new services in the future when financially feasible. Members were asked to evaluate these possibilities. The response (Table 2) was strongly positive: the average composite score was 76. The lowest score (dental health kits) was over 50. (The lowest score on importance of present services was also over 50.) There were five items which received scores of over 80. They were (in descending order): policy advice for governments, provincial associations and practising dentists; evaluations of products, equipment, drugs, and methods; practical clinical articles in the Journal; improved approaches to delivery and financing of dental services; and operation of programs of continuing education.

Publications: interest, quality and reading

The assessment of interest in and quality of publications is shown in Table 3. Pamphlets and the Journal (overall rating) each received scores close to 70 on interest, while Transactions scored just 54. The quality ratings for all three were close to 60.

For this question, the content of the Journal was classified in eight categories. The highest ratings (in descending order) were given to news affecting the profession (81), clinical articles (73), and editorials (69). The lowest interest ratings were assigned to advertisements [both classified (50) and commercial (43)]. The top quality ratings in order were given to editorials and classified advertisements (tied for first place), news affecting the profession, and clinical articles. The differences between scores on interest and quality again provide a guide to those areas which might be improved. The greatest differences were on professional news, clinical articles, and expression of dentists' opinions

1. Scores, where given, were calculated according to the following arbitrary formula:

$$\text{Score} = \frac{1 (\# \text{ of High answers}) + 0.5 (\# \text{ of Middle answers}) + 0 (\# \text{ of Low answers})}{\text{Total answers}}$$

The scoring system assumes a mid-point of 50, with the high and low responses equidistant at 100 and 0 respectively. The score would be 50 if all responses fell in the middle category or

if responses were equally distributed amongst the three categories. Thus the score is a measure of average response, not of distribution.

Both categories of advertisements, on the other hand, received quality ratings substantially greater than interest ratings.

Members were also questioned about the extent to which they read various types of Journal material. The results (Table 4) show that articles are the most read (64% regularly), followed by news (61% regularly), and editorials (53% regularly). Letters and advertisements are read less often.

The Journal was frequently mentioned by those who responded to open-ended questions. Of those who identified a "single most important thing that the CDA does", 17% listed the Journal. In addition, a large number of responses which were classified under such other headings as continuing education, news, information and communication within the profession, referred explicitly or implicitly to the Journal. The open-ended questions also revealed a small minority who were critical of the Journal. On both a question about "other problems with the CDA" and a question soliciting a single major criticism, 6% of those answering referred to the Journal.

Perception of problems within the CDA

Members were asked to react to statements postulating certain problems within the CDA (Table 5). Non-responses were fairly high on this question (ranging from 18% to 44% on various items). A significant number of members did not feel themselves able to comment. Of those who did give an opinion many did see the issues listed as problems. About four-fifths felt there was no clear definition of a national role; about two-thirds saw inability to deal with important issues or lack of communication within the profession. Over half saw conflict with provincial associations or unsatisfactory priorities as problems, and two-fifths felt a lack of means for members to express themselves. Major problems within the present CDA are perceived by many members.

Given an opportunity to list additional problems, 92% did not do so. Of the few who did respond, nearly one-half referred to such matters as ineffectiveness, lack of priorities, irrelevance, remoteness. Responses were similar when members were asked to state their major criticism of the CDA (Table 6). In addition, in giving their major criticism, 10% referred to lack of communication with members and 8% mentioned conflict or duplication with provincial associations; lack of unity. About 40% did not make a major criticism.

What is most important?

Results on the question, "What is the single most important thing CDA does for you?" are shown in Table 7. The largest grouping of responses (about one-third) was around aspects of the national role, such as national unity of the profession, a national voice, representation to governments and the public. About one-fifth of the answers related to financial protection and another one-fifth referred specifically to the Journal. The category of news/informa-

tion/communication within the profession contained 15% of the responses. About one-fifth of the members did not respond, and another 7% gave such answers as nothing/little/don't know.

Other comments

The opportunity to make other comments drew forth a wide variety of responses, a few fairly colorful (both positive and negative). Only a third of the respondents replied to this invitation. Some 29% of the comments (Table 8) related to the strengthening of the CDA and focusing of its efforts. A further 26% of the remarks could be classified as "more for the average member": more communication, more input, more services. Thus over 50% of the comments expressed the wish for the CDA to be stronger and to do more. Sixteen per cent made comments on the organization of the association, and 5% on its administration. A number of responses were directed towards alteration of priorities or values and accounted for 13% of the answers. For instance, views that the CDA should become more socialistic, or less socialistic, were assigned to this group. General comments of a complimentary nature were made by 6%, and negative views of a general nature were expressed by 3%.

Differences within the profession

Surprisingly, little by way of differences in attitude among different groups within the profession was found. The highlights follow. Where results are presented in tabular form, caution should be employed in regard to small differences, particularly when the group in question is small, minor differences may be attributable to random variation.

English/French

There were some differences between responses of English- and French-speaking members, but on the majority of questions, answers were similar. Where differences do appear, in general they are relatively small. Table 9 contains a comparison on selected items where differences were present; responses were similar on all other questions.

French-speaking members were somewhat less positive to the CDA itself and various present services. Answers on possible future services were similar on most items, but French-speaking members assigned higher value to clinical articles and lower value to improved approaches to delivery and financing of dental services and to policy advice for governments, provincial associations, and practising dentists. French-speaking members were slightly less positive towards CDA involvement in provincial affairs. When asked about their perception of problems within the CDA, French-speaking members saw problems to the same extent as their English-speaking counterparts, except for communication within the profession and lack of means for members to express themselves, which were perceived by more of the French.

French-speaking members saw the Journal as of somewhat less overall interest than the English; in particular, they were less interested in news. They were more interested, though, in clinical articles. Quality of the overall Journal, on the other hand, was given a higher rating by the French-speaking. Clinical and research articles were the categories of content which reflected this higher overall rating. These differences in evaluation of the Journal are difficult to interpret, since English and French content were not rated separately. We do not know whether French-speaking members were rating primarily French content or the entire Journal.

Provinces

The differences amongst provinces were relatively minor. Table 10 gives the responses by province on certain selected items. Items chosen for presentation were those where province might be expected to be influential (whether or not differences appeared), and the other items where there appeared to be the most differences amongst provinces.

A profile of the responses in each province (compared with the Canadian average) is as follows:

Alberta — Slightly more positive to the CDA, and to the Journal, and slightly lower than average in perception of problems.

British Columbia — Generally average responses, with a slightly lower than average perception of present problems.

Manitoba — Slightly more positive to the present CDA, and slightly lower perception of problems.

New Brunswick — Somewhat more positive to the CDA itself, and lower in perception of present problems, particularly on conflict with provincial associations.

Newfoundland — Very positive to the CDA itself, but low on importance of communication with provincial governments; somewhat high on development of policy advice, and particularly interested in news on the profession; less critical than average on definition of national role, priorities, and conflict with provincial associations.

Nova Scotia — Slightly more positive to the CDA, and somewhat high on interest in the Journal; somewhat low on perception of conflict with provincial associations.

Ontario — Close to the average on most items, but somewhat high on inability to deal with important issues, and high on conflict with provincial associations.

Prince Edward Island — More positive to the CDA, and higher on support of automatic provincial representation; strong on development of policy advice, slightly higher on inability to deal with important issues, and slightly lower on definition of national role.

Quebec — Somewhat low on the importance of the CDA and on future development of policy advice; less interested in news of the profession; somewhat higher on lack of communication and means for members to express them-

selves, and on unsatisfactory priorities and conflict with provincial associations.

Saskatchewan — More positive toward the CDA; less interested in future development of models for practice, less than average criticism of definition of national role, priorities, and conflict with provincial associations.

Overall, the differences amongst provinces were remarkably small. The only generalization which can be made is that in the smaller provinces, interest in the CDA was slightly higher and perception of problems a little lower than in the larger provinces.

Age

A pattern of responses related to age appeared on some questions; older members were more positive to the CDA itself, and to the Journal. The general question about the importance of the CDA brought forth a clear pattern in relation to age, but the various other specific questions on present functions did not show this relationship. Nor was there a relation to age in the answers to questions on possible future services or on perceptions of problems within the organization. A possible explanation of this apparent anomaly is that the higher support from older members represents a stronger emotional identification which does not reflect itself in realistic evaluations of present functioning of the organization, except for ratings of the Journal. Table 11 shows that evaluations of the Journal on both overall interest and quality are less positive the younger the respondents. These overall ratings were reflected in ratings of various categories of Journal content, and in responses to the question on the extent of reading.

These results on age differences were compared with those of a small sample survey undertaken by the American Dental Association in March 1974. That survey revealed more positive responses the older the member, in a much more striking fashion than that reported here.

Sex

There were no substantial differences between the answers of male and female dentists, with a few exceptions. Female dentists were a bit less positive on their overall estimation of the value of the CDA (Very important: 40% female, 47% male). The female respondents, on the other hand, were more inclined to favor automatic presentation of CDA views within provinces (Automatic: 42% female, 23% male). Female dentists also gave somewhat higher ratings of the Journal on interest (High: 50% female, 39% male) and on quality (Excellent: 39% female, male 31%).

Specialists

Specialists were a little more interested in the CDA than non-specialists. The CDA was rated as very important by 54% of the specialists, compared with 45% of the non-specialists. On most other questions responses were similar. However, communication within the profession was rated

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very important by 78% of specialists, and 69% of others. Specialists were less interested in a possible consulting service for clinical problems (specialists 36%, others 49%), and in present clinical articles in the Journal (specialists 35%, others 52%).

Organizational involvement

As might be expected, those who have often served organized dentistry attached greater importance to CDA activities and also perceived more problems than their less-involved colleagues. Table 12 shows responses on the question about the general importance of the CDA. The pattern of responses in relation to organizational involvement becomes stronger, moving from the local to the provincial to the national level.

Type of professional activity

There were few differences in responses according to type of professional activity, and those which did appear were directly related to that activity (e.g. those in academic employment attached greater importance to accreditation).

Community size

It was expected that the Association might serve a somewhat different role for dentists in metropolitan areas than for those with less opportunity for contact with colleagues. Responses were therefore analyzed by size of the community in which the dentist resided. Table 13 gives the answers on certain selected variables which might reveal the hypothesized relationship. No such relationship appeared. What variation there is is minor and seems to be essentially random.

Student members

The Task Force felt that the attitudes of dental students to the Association were of great importance and that they should be surveyed as well. Only 51% of the students are members of the CDA at present. A survey was designed with a slightly modified questionnaire, to be given to all dental students, not just members. Certain administrative difficulties, largely associated with the postal strike in the spring of 1974, delayed the student survey. It will be completed in the fall of 1974 and reported separately.

Conclusions

The survey revealed a great deal about the attitudes of Canadian dentists. The authors are hopeful that the results will be of benefit to the Association as it takes stock and examines its priorities for the future. The details of the findings will require considerable effort at digestion by those charged with the ongoing responsibility for the affairs of the Association. It is possible at this point, however, to draw a composite profile of overall attitudes of members towards the CDA, based on the survey results.

On the positive side, the rate of response and the assessments of the importance of and interest in CDA functions are grounds for encouragement. The Association has been urged to strengthen itself and focus its activities. The more abstract aspects of the CDA role involved in sustaining national dental unity and in being the representative of dentists to Canadian society (governments and the public) have the strong support of members. At the same time, there is a great demand for improved and new practical services which can directly benefit the average practitioner.

On the negative side, the questions brought forth a good deal of criticism of the organization and revealed a substantial gap between the importance attached to CDA activities and the level of performance in many areas. There is a great deal of scope for change in the directions indicated by the members. The relative absence of differences in attitudes according to location and other characteristics can give the Association confidence that it has a truly national mandate.

The authors are indebted to a number of persons who assisted with the survey, only a few of whom we are able to mention. In particular we wish to acknowledge the help of Dr. R. M. Grainger, who prepared the computer tabulations of results and provided other general advice; Miss Alexandria Kunachowicz, who assisted with coding of open-ended responses and with statistical calculations; Dr. M.-Y. Trepanier, who helped with translation; the members of the Task Force who served on the Survey Advisory Committee; Dr. D. McDougall, Dr. E. T. Duke, and Dr. G. Barrett for their advice; and Miss Anne Turner, who assumed a heavy secretarial load.

G. Grant Clarke directed the survey on behalf of the CDA Task Force. Mr. Clarke is Secretary and Research Associate, Council of Ontario Universities.

John B. Macdonald is Chairman of the CDA Task Force. Dr. Macdonald is Executive Director, Council of Ontario Universities and Professor of Higher Education, University of Toronto.

Tabulation of Task Force Survey

L'étude de l'équipe de travail mise sous forme de tableaux

Canadian Dentists' Opinions of Importance and Effectiveness of Present Association and Its Services
Importance et efficacité de l'Association et de ses services selon les dentistes canadiens

SERVICE SERVICE	IMPORTANCE IMPORTANCE			Score Note	Rank Rang	EFFECTIVENESS EFFICACITÉ			Score Note
	% Very Grande	% Some Relative	% None Aucune			% Excellent Excellente	% Moderate Passable	% Poor Faible	
CDA ADC elle-même	46	47	7	70	—	—	—	—	—
Communication (Federal govt.) <i>Communications avec gouv. féd.</i>	82	14	4	89	1	12	50	39	37
Communication (Profession) <i>Communications à intér. de profession</i>	71	27	2	85	2	13	65	22	45
Education of public <i>Education du public</i>	67	28	5	81	3	4	42	54	25
Accreditation <i>Agrément</i>	62	33	5	78	4	25	58	17	54
Financial protection <i>Protection financière</i>	60	35	6	77	5	49	42	8	71
Communication (Prov. govt.) <i>Communications avec gouv. prov.</i>	61	28	11	75	6	8	38	55	27
Continuing education <i>Education permanente</i>	56	38	7	74	7	11	56	33	39
Influence on dent. educ. <i>Infl. sur l'enseign. dentaire</i>	48	46	6	71	8	11	62	27	42
Library <i>Serv. de bibliothèque</i>	35	56	9	63	9	32	52	16	58
Student services <i>Services aux étudiants</i>	29	60	11	59	10	9	61	30	40

Canadian Dentists' Opinions of New or Strengthened Association Services

Opinions des dentistes canadiens sur les services nouveaux ou améliorés de l'Association

SERVICES SERVICES	VALUE VALEUR			Score Note	SERVICES SERVICES	VALUE VALEUR			Score Note
	% High Grande	% Moderate Relative	% None Aucune			% High Grande	% Moderate Relative	% None Aucune	
Policy advice <i>Serv. de consult. pour gouv. ass., prof., etc.</i>	79	19	2	89	Set-up advice <i>Inform. sur l'établissement</i>	62	31	7	78
Product Evaluation <i>Evaluation de produits, etc.</i>	74	22	3	86	Financial planning <i>Planification financière</i>	50	42	7	71
Clinical articles <i>Articles sur situations cliniques</i>	72	25	3	85	Local dental news <i>Nouvelles locales sur prof.</i>	45	48	7	69
Approaches to delivery <i>Polit. améliorées de financ. et de serv.</i>	68	29	4	82	Clinical consulting <i>Serv. de consult. pour probl. cliniques</i>	47	42	11	68
Continuing education <i>Programme d'éducation permanente</i>	66	29	5	81	Models for practice <i>Modalités de pratique privée</i>	43	49	8	67
Economic analyses <i>Analyses économiques</i>	64	31	5	79	Dental health kits <i>Prévention: nécessaires ou ensembles</i>	30	46	24	53

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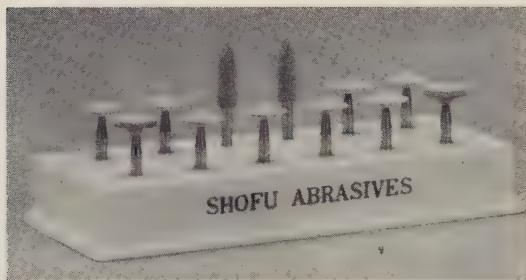
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PUBLICATION PUBLICATIONS	INTEREST INTÉRÊT			Score Note	Rank Rang	QUALITY QUALITÉ			Score Note	Rank Rang
	% High Grand	% Some Moyen	% None Nul			% Excellent Excellente	% Moderate Passable	% Poor Faible		
Pamphlets Dépliants	48	45	7	71	1	31	54	15	58	3
Transactions Délibérations	23	62	15	54	3	28	63	9	60	2
Journal – Overall Journal – En général	39	59	1	69	2	31	61	8	62	1
JOURNAL JOURNAL										
News: profession Nouvelles sur la profession	63	35	2	81	1	29	62	9	60	3
Clinical articles Articles sur les aspects cliniques	49	48	3	73	2	28	59	13	58	4
Editorial Editoriaux	42	53	5	69	3	35	58	7	64	1.5
Opinion Expressions d'opinions	32	59	8	62	4	17	67	16	51	8
Research articles Articles de recherche	28	64	8	60	5	25	63	12	56	6.5
News: people Nouvelles sur les membres	21	62	17	52	6	22	69	9	56	6.5
Ads: classified Annonces classées	21	60	20	50	7	33	61	6	64	1.5
Ads: commercial Annonces commerciales	11	62	26	43	8	25	65	11	57	5

Canadian Dentists' Reported Reading of the
 Journal of the Canadian Dental Association
Le Journal de l'Association dentaire canadienne:
quantification des habitudes de lecture chez les
dentistes canadiens

Table 4

Tableau 4

READING – LECTURE				
CONTENT CONTENU	% Regularly Régulier	% Occasionally À l'occasion	% Never Jamais	Score Note
Articles Articles	64	36	1	82
News Nouvelles	61	36	3	79
Editorials Editoriaux	53	43	3	75
Letters Lettres	41	52	7	67
Advertisements Annonces	24	61	14	55

Canadian Dentists' Perceptions of Postulated Problems
 within the Association

Table 5

Perception des problèmes à l'intérieur de l'Association,
tels que proposés aux dentistes canadiens

Postulated Problem Problèmes Proposés aux Dentistes	% Stating Yes Oui %	% Stating No Non %
Definition of national role Définition claire d'un rôle national	81	19
Inability to deal with important issues Incapacité de traiter certaines questions importantes	67	33
Communication within profession Communications à l'intérieur de la profession	65	35
Conflict with provincial associations Conflits avec les associations provinciales	57	43
Unsatisfactory priorities Priorités insatisfaisantes	52	48
Lack of means for members' expression Absence de moyens d'expression pour les membres	41	59

Canadian Dentists' Single Major Criticisms of the Association <i>Critique fondamentale à l'égard de l'Association, selon les dentistes canadiens</i>	Table 6 <i>Tableau 6</i>
	%
Ineffectiveness; lack of priorities; uselessness <i>Inefficacité; manque de priorités; inutilité</i>	40
Irrelevance; remoteness; lack of input <i>Manque de pertinence; éloignement; manque de renseignements</i>	16
Communication with members <i>Pas de communications avec les membres</i>	10
Conflict or duplication with provincial associations; lack of unity <i>Conflits ou double emploi avec les associations provinciales; manque d'unités</i>	8
Journal <i>Le Journal</i>	6
Not enough for average dentist <i>Manque de services rendus au dentiste moyen</i>	5
Administration <i>Administration</i>	4
Regional bias <i>Esprit trop régional</i>	4
Organization <i>Organisation</i>	3
Conservatism; lack of concern for society <i>Conservatisme; manque de préoccupations sociales</i>	1
Apathy of members <i>Apathie des membres</i>	1
Move to Ottawa <i>Déménagement à Ottawa</i>	1
Convention <i>Congrès</i>	1
Socialistic bias <i>Tendance socialiste</i>	< 0.5
Miscellaneous <i>Divers</i>	< 0.5

Canadian Dentists' Opinions of the Single Most Important Thing the Association Does <i>La chose la plus importante que fait l'Association, selon les dentistes canadiens</i>	Table 7 <i>Tableau 7</i>
	%
Financial protection <i>Protection financière</i>	19
Journal <i>Le Journal</i>	17
News; information; communication within profession <i>Nouvelles; information des membres; communications à l'intérieur de la profession</i>	15
National unity of profession <i>Unité de la profession</i>	14
National voice; representation to public <i>Représentation de la profession au niveau national et devant le public</i>	13
Representation to governments <i>Représentation devant les gouvernements</i>	5
Nothing; little <i>Rien; peu de chose</i>	5
Continuing education <i>Éducation permanente</i>	3
Don't know <i>Pas d'opinion</i>	2
Convention <i>Congrès</i>	2
Education <i>Éducation en général</i>	1
Maintain quality of practice <i>Maintien de la qualité de la pratique</i>	1
Accreditation; licensing on graduation <i>Agrément; émission des permis</i>	1
Library <i>Service de bibliothèque</i>	1

Other Comments by Canadian Dentists
to the Task Force
*Autres commentaires des dentistes canadiens
exprimés à l'équipe de travail*

Table 8
Tableau 8

	%
Strengthen CDA; focus efforts <i>Renforcement de l'ADC; concentration des efforts</i>	29
More for average member: communication; input; services <i>Réorganisation en faveur du dentiste moyen: communication, services</i>	26
Organization <i>Organisation</i>	16
Alter priorities/values <i>Modification des priorités ou des valeurs</i>	13
Complimentary <i>Compliments</i>	6
Administration <i>Administration</i>	5
Negative towards CDA <i>Attitude négative envers l'ADC</i>	3

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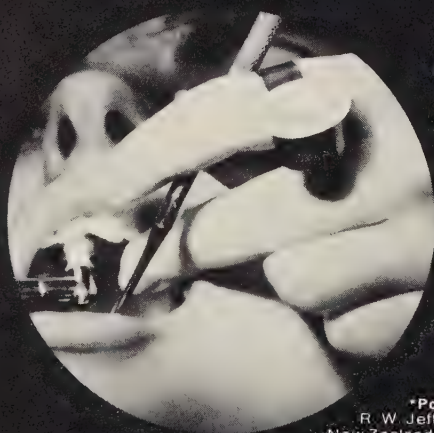
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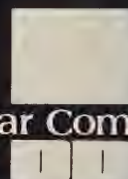


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New Zealand Dental Journal 69:167

**Finishing amalgam restorations —
a scanning electron microscope
study. B. G. Tidmarsh, BDS,
FRACDS, and J. B. Gavin, DDS,
PhD, FRACDS, New Zealand Dental
Journal 69:175.



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Differences Between English and French-Speaking Respondents on Selected Survey Items

Table 9

Différences apparues entre francophones et anglophones (Réponses sélectionnées)

Tableau 9

ITEM RUBRIQUES	English- Speaking Anglophones	French- Speaking Francophones	ITEM RUBRIQUES	English- Speaking Anglophones	French- Speaking Francophones
Present Services: Importance % Very Impt.) Importance des services actuels % des réponses "Grande")			Journal Interest (% High) Intérêt porté au Journal (% de rép. "Grand")		
CDA itself ADC elle-même	48	34	Overall En général	40	31
Commun. Profession Comm. à l'intérieur de la prof.	74	52	Clinical articles Articles sur aspects cliniques	48	60
Accreditation Agrément	64	43	News: people Nouvelles sur les membres	22	12
Influence on dent. educ. Infl. sur l'enseign. dentaire	50	36	News: profession Nouvelles sur la profession	65	48
Education of public Education du public	68	55	Journal Quality (% Excellent) Qualité du Journal (% de rép. "Excellente")		
Commun. Federal Govt. Comm. avec gouv. féd.	84	65	Overall En général	31	38
Commun. Provincial Govts. Comm. avec gouv. prov.	62	44	Clinical articles Articles sur aspects cliniques	26	44
Continuing education Education permanente	57	47	Research articles Articles de recherches	24	35
Possible Future Services: New or Strengthened (% High Value) Services nouveaux ou améliorés % de rép. "Grande valeur")			Journal Reading (% Read Regularly) Lecture du Journal (% de rép. "Régulièrement")		
Clinical articles Articles sur prob. cliniques	71	84	News Nouvelles	62	51
Approaches to delivery of dental care Polit. améliorée de financ. et de serv.	70	45	Letters Lettres	43	25
Policy advice Serv. de consult. pour gouv., assoc., prof.	81	59	Perceived Problems (% Yes) Problèmes perçus (% de rép. "Oui")		
Presenting CDA Views within Provinces			Communication within profession Manque de communications internes	64	73
Intervention de l'ADC dans affaires prov.			Lack of means for members to express themselves Absence de moyens d'expression pour les membres	40	51
% Automatically % de rép. "Automatiquement"	25	16			
% Never % de rép. "Jamais"	2	8			

Responses by Province on Selected Survey Items

Profil des réponses sélectionnées selon la province de résidence

PROVINCE

Table

Tableau

ITEM RUBRIQUES	Canada Ens. du Canada	Alta. Alb.	B.C. C.-B.	Man. Man.	N.B. N.-B.	Nfld. T.-N.	N.S. N.-E.	Ont. Ont.	P.E.I. I.P.-E.	Que. Qué.	Sask. Sask.
Present Services: Importance (% Very Impt.) Importance des services actuels (% de rép. "Grande")											
CDA itself ADC elle-même	46	56	47	51	56	65	53	44	59	39	57
Commun-Profession Communications internes	71	78	74	79	70	74	79	71	78	59	80
Commun-Federal Govt. Communications avec gouvernement fédéral	82	89	85	90	78	82	85	82	91	71	84
Commun. Provincial Govt. Communications avec gouvernement provincial	61	66	63	67	57	49	61	62	64	48	72
Presenting CDA Views within Provinces Intervention de l'ADC dans les affaires provinciales	24	20	23	19	20	16	20	27	35	20	27
Possible Future Services: New or Strengthened (% High Value) Services nouveaux ou améliorés (% de rép. "Grande valeur")											
Models for practice Modalités de pratique privée	43	40	42	51	52	40	38	41	43	50	30
Policy advice Serv. de consult. pour gouv., etc.	79	80	83	81	84	89	84	81	96	66	83
Journal Interest (% High) Intérêt porté au Journal (% de rép. "Grand")											
Overall En général	39	48	38	41	53	43	49	38	41	33	43
News: profession Nouvelles sur la profession	63	70	61	59	66	84	70	65	68	50	68
Perceived Problems Problèmes perçus											
Inability to deal with impt. issues Incap. de traiter questions importantes	67	59	63	56	40	66	71	75	78	64	65
Definition of national role Abs. d'une définition claire du rôle national	81	74	76	73	57	51	78	87	73	83	73
Lack of means for members to express themselves Abs. de moyens d'expression pour les membres	41	33	36	33	27	44	36	44	37	50	36
Unsatisfactory priorities Priorités insatisfaisantes	52	40	48	45	30	40	45	59	43	59	40
Conflict with provincial associations Conflits avec ass. prov.	57	37	42	38	29	24	45	72	53	63	38
Response Rate (%) Pourcentage de réponses	56	63	68	65	59	61	55	54	78	45	73

Responses by Age on Selected Survey Items*							Table 11
Profil des réponses selon l'âge* (rubriques sélectionnées)							Tableau 11
ITEM RUBRIQUES	AGE* — AGE*						
	70 and over 70 ans et plus	60-69	50-59	40-49	30-39	Under 30 Moins de 30	
Importance of the CDA itself (% Very Impt.) Importance de l'ADC elle-même (% de rép. "Très")	64	59	54	52	40	37	
Journal: Overall interest (% High) Intérêt porté au Journal (en général) (% de rép. "Grand")	66	54	48	40	33	36	
Journal: Overall quality (% Excellent) Qualité du Journal (en général) (% de rép. excellente)	53	38	38	35	27	26	

*Year of graduation was used as a proxy for age.

*On s'est servi de la date d'obtention du diplôme pour établir approximativement l'âge des répondants.

Stated Importance of the Association in Relations to Involvement in Dental Organizations			Table 12
Opinions des dentistes canadiens sur l'importance de l'Association, selon la participation des répondants aux organismes professionnels de dentistes			Tableau 12
Locale of Involvement Niveau de Participation	% Stating CDA is Very Important Importance de l'Association elle-même (% de réponses "Très")		
	Of Those Involved Participants	Of Those Not Involved Non-participants	
National National	76	43	
Provincial Provincial	61	41	
Local Régional	53	39	

Responses by Community Size on Selected Survey Items
Profil des réponses selon la taille de l'agglomération (rubrique sélectionnées)

Table 13
Tableau 13

ITEM RUBRIQUES	COMMUNITY SIZE TAILLE DE L'AGGLOMÉRATION						
	All Ensemble	Under 5,000 Moins de 5,000	5,000-29,999	30,000-99,999	100,000-499,999	500,000-999,999	1,000,000 and over 1,000,000 et plus
Present Services: Importance (% Very Impt.) Importance des services actuels (% de rép. "Grande")							
CDA itself ADC elle-même	46	42	41	45	53	51	43
Commun: Profession Communications internes	71	70	68	68	76	78	69
Financial protection Protection financière	60	60	59	59	61	57	60
Continuing education Éducation permanente	56	56	54	57	57	53	55
Journal: Overall Interest (% High) Intérêt porté au Journal (en gén.) (% de rép. "Grand")	39	40	42	37	42	40	35
Perceived Problems within the CDA (% Yes) Problèmes perçus (% de rép. "Oui")							
Ability to deal with important issues Capacité de traiter questions importantes	67	63	64	66	68	61	73
Definition of national role Déf. d'une définition claire du rôle national	81	80	79	80	80	78	84



INDICATIONS: Carbocaine (brand of mepivacaine) is indicated for the production of local anesthesia for dental procedures by infiltration injection or nerve block.

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PRECAUTIONS: The safety and effectiveness of Carbocaine depend upon proper dosage, correct technique, adequate precautions, and readiness for emergencies.

The lowest dose that results in effective anesthesia should be used to avoid high plasma levels and serious undesirable systemic side effects. Injection of repeated doses of Carbocaine may cause significant increases in blood levels with each repeated dose due to slow accumulation of the drug or its metabolites, or due to slow metabolic degradation.

Tolerance varies with the status of the patient. Debilitated, elderly patients, acutely ill patients, and children should be given reduced doses commensurate with their age and physical status.

Solutions containing a vasoconstrictor should be used cautiously in the presence of diseases which may adversely affect the patient's cardiovascular system. In persons

with known drug sensitivities or allergies Carbocaine should be used cautiously.

Serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients receiving or following the administration of chloroform, cyclopropane, trichloroethylene, or other related anesthetics.

ADVERSE REACTIONS: Adverse reactions result from high plasma levels due to excessive dosage, rapid absorption, or inadvertent intravascular injection. Hypersensitivity, idiosyncrasy, or diminished tolerance may also cause reactions. Reactions due to overdosage (high plasma levels) are systemic and involve the central nervous system and the cardiovascular system.

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diovascular system consists of using vasopressors,
ably epinephrine. Convulsions may be controlled by
e of oxygen. If convulsions persist, the intravenous
stration in small increments of an ultra short-acting
rate (i.e., thiopental, thiamylal) may be used. If these
available, a short-acting barbiturate (secobarbital,
arbital) may be used. Intravenous barbiturates
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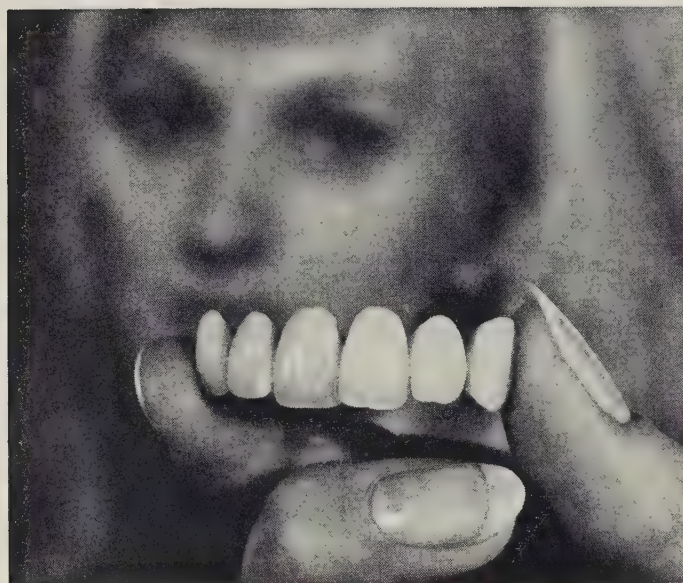
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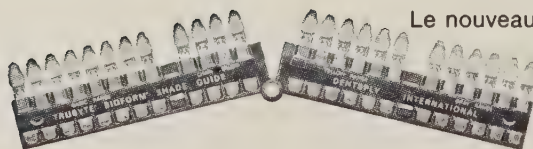
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Analyse de l'attitude des dentistes canadiens à l'égard de l'Association dentaire canadienne, d'après un sondage mené en 1974

MM. G. Grant Clarke, MA
John B. Macdonald, DDS, MS, PhD, Toronto

À sa réunion annuelle de 1973, le conseil d'administration de l'Association dentaire canadienne a décidé de mettre sur pied une équipe de travail chargée de faire des recommandations sur les orientations futures de l'Association. L'équipe de travail a reconnu dès le début l'importance de consulter les membres canadiens de la profession sur l'état actuel et l'évaluation future de l'Association dentaire canadienne. À la première rencontre du groupe, en janvier 1974, des discussions préliminaires ont eu lieu sur l'opportunité d'un sondage d'opinion auprès des membres, à mi-chemin du mandat de l'équipe. Ce calendrier des activités permettait à l'équipe de travail d'incorporer au plan de son enquête les questions et idées qui auraient été soulevées au cours des premières discussions, et d'étayer son rapport et ses recommandations finales sur les résultats du sondage.

Un projet de questionnaire a été mis à l'épreuve dans des interviews collectives auprès de dentistes représentatifs de la profession dans cinq régions du pays. Le questionnaire final a été posté à tous les dentistes du Canada en mai 1974. Après un délai de réponse de deux mois (complété par une lettre de rappel et des contacts personnels dans certaines régions), environ 4,700 questionnaires avaient été reçus.

Analyse des réponses

Environ 55% des dentistes canadiens ont répondu au questionnaire. L'équipe de travail considère ce taux de participation assez satisfaisant, surtout si l'on tient compte de la relative complexité de la formule pour les dentistes ayant eu peu de contacts avec l'Association dentaire canadienne. Pour permettre à tous, même aux plus affairés, d'exprimer leur point de vue, on a inclus une carte-réponse avec chaque formule de questionnaire, ce qui donnait la possibilité à ceux qui le désiraient de préciser pourquoi ils refusaient de répondre au questionnaire. Moins de 2% des dentistes ont

retourné ces cartes, où ils indiquaient leur indifférence ou leur hostilité à l'égard de l'ADC ou du sondage lui-même.

C'est un pourcentage remarquablement faible, qui permet de penser que ni l'aversion pour le questionnaire, ni l'hostilité à l'égard de l'ADC ne peuvent expliquer pourquoi de nombreux dentistes n'ont pas répondu. La difficulté du questionnaire ou un horaire trop chargé semblent une explication plus valable à la non-participation. Une autre raison peut être l'indifférence totale de certains dentistes à l'égard des organisations professionnelles en général ou de l'Association dentaire canadienne en particulier. La seule conclusion qu'on puisse tirer est que rien ne laisse supposer que les non-répondants auraient répondu très différemment des répondants.

Les taux de réponse ont été relativement constants d'une province à l'autre (voir le tableau 10), le Québec faisant exception avec un pourcentage de 45%. L'Ontario et la Nouvelle-Écosse se situaient près de la moyenne (56%) et les autres provinces oscillaient aux environs de 60%, sauf l'Ile-du-Prince-Édouard et la Saskatchewan, dont les taux de réponse, plus élevées, ont atteint 78% et 73% respectivement.

Mise à part la répartition quelque peu inégale entre les provinces, l'échantillon est assez représentatif de la profession dentaire au Canada, pour les caractéristiques faisant l'objet de l'étude. On peut cependant constater une représentation légèrement excessive des dentistes masculins, des dentistes anglophones, des personnes âgées de 50 à 59 ans et des moins de 40 ans, des dentistes pratiquant dans des agglomérations de 5,000 à 100,000 habitants, des spécialistes et des dentistes oeuvrant dans le domaine de l'enseignement. Ce déséquilibre est assez léger et ne met pas en cause la validité de l'échantillon. De plus, comme nous le verrons plus loin, l'effet de ces variables sur la nature des réponses a été plutôt faible.

Importance et efficacité des services présentement rendus par l'ADC

On a demandé aux membres quelle importance ils accordaient à l'Association dentaire canadienne, puis on les a priés d'évaluer un certain nombre de services rendus par l'Association, aux points de vue importance et efficacité. Les résultats sont résumés dans le tableau 1. Pour chacune de ces questions, une échelle en trois degrés a été proposée aux répondants. Au moment du dépouillement, les réponses ont été pondérées de façon à donner un indice global au regard de chaque rubrique. Les indices varient de 0 à 100, les pourcentages les plus élevés représentant les réponses les plus favorables.¹

"Quel degré d'importance a l'ADC pour vous?" Moins de 7% ont répondu "aucune", et les autres se sont divisés à peu près également entre les mentions "grande" et "relative". L'indice global pour cette question est de 70 (sur 100). Étant donné la crise d'identité qui a amené la mise sur pied de l'équipe de travail par l'ADC, il s'agit là d'un vote de confiance très encourageant pour l'Association, même s'il y a place pour l'amélioration.

L'évaluation de l'importance des services actuels est généralement élevée, le résultat moyen atteignant 75. Les notes les plus élevées (dans l'ordre décroissant) sont allées à l'exposé des vues de la profession auprès du gouvernement fédéral, aux communications à l'intérieur de la profession et à l'éducation du public. Les résultats les plus faibles sont allés au service de bibliothèque et aux services aux étudiants.

On avait également demandé aux membres d'évaluer l'efficacité des services actuels et la cote de l'Association est ici plutôt faible. Le résultat moyen est de 44 (c'est-à-dire 31 points de moins que l'indice moyen pour l'importance). La seule exception notable à cette faible évaluation est la note de 71 au chapitre de la protection financière, c'est-à-dire les programmes de pension et d'assurance.

Le classement de chacune des rubriques aux points de vue importance et efficacité indique qu'il n'y a pas de relation entre les deux évaluations. Ainsi, les fonctions qui sont les plus importantes aux yeux des membres ne sont pas aperçues comme étant les mieux accomplies. La comparaison des notes accordées respectivement pour l'importance et l'efficacité au regard de chacune des rubriques indique les secteurs où les membres désirent le plus vivement voir une amélioration. En tête de cette liste, on retrouve l'"éducation du public", dont la note au point de vue importance a

atteint 81, alors que l'efficacité ne dépassait pas 25, soit une différence de 56 points. Suivent les rubriques "l'exposé des vues de la profession auprès du gouvernement fédéral", puis "l'exposé des vues de la profession auprès des gouvernements provinciaux", les "communications à l'intérieur de la profession" et "l'éducation permanente". (Les notes respectives de chacune de ces rubriques ont été de 52, 48, 40 et 35.) En bref, la profession n'est guère impressionnée par l'efficacité de l'Association.

Représentation de l'ADC dans les affaires provinciales

Les membres ont été priés de donner leur opinion sur la valeur des interventions de l'ADC dans des questions provinciales. Près du quart (24%) des répondants croit que l'ADC devrait représenter la profession dentaire automatiquement (sans nécessairement attendre l'invitation de l'association provinciale ou de l'organisme qui régit les permis d'exercer); 74% croient que l'Association devrait intervenir sur invitation, et 2% pensent que l'ADC ne devrait jamais faire des interventions pour la profession au palier provincial. Il est intéressant de noter que 29% de ceux qui accordent une grande importance à l'ADC favorisent une intervention automatique, contre 19% pour les autres.

Ces résultats indiquent que la plupart des dentistes veulent que l'ADC joue un rôle de leader et souhaitent que l'Association exerce son influence au palier provincial lorsque les dentistes membres en font la demande.

Nouveaux services

L'équipe de travail a désigné un certain nombre de secteurs d'activité où l'ADC pouvait entrevoir un développement des services actuels ou l'établissement de nouveaux services, sous réserve de ressources financières suffisantes. Les membres ont été priés de donner leur opinion sur cette éventualité. Leur réponse (voir tableau 2) a été très majoritairement positive: l'indice global moyen est de 76. La note la plus faible (nécessaires ou ensembles pour soins dentaires) est de 50. (La note la plus faible sur l'importance des services actuels est aussi de 50.) Cinq rubriques ont obtenu des notes supérieures à 80; ce sont (dans l'ordre décroissant): un service de consultation à l'intention de gouvernements, des associations professionnelles et de dentistes; un bureau d'évaluation des produits, de l'équipement, des médicaments et des techniques de traite-

1. Toutes les notes ont été établies d'après la formule suivante, que nous avons choisie arbitrairement:

$$\text{Note} = \frac{1 (\text{Réponses "Grande"}) + 0.5 (\text{Réponses "Relative"}) + 0 (\text{Réponses "Aucune"})}{\text{Réponses totales}}$$

Le barème d'évaluation des réponses comporte une valeur médiane arbitraire de 50, les deux extrêmes (réponses fortement positives et réponses fortement négatives) se situant à 100 et 0 respectivement. Ainsi, le résultat serait de 50 si toutes les

réponses appartenaient à la catégorie moyenne ou étaient réparties également entre réponses positives et réponses négatives. La "note" donnée à chaque rubrique représente donc une mesure de la réponse globale, et non une répartition des réponses.

ment; la publication dans le Journal d'articles scientifiques sur des situations cliniques courantes en pratique privée; le développement de politiques améliorées de financement et de service; la mise sur pied d'un programme d'éducation permanente.

Publications de l'ADC: évaluation de l'intérêt et de la qualité

Le tableau 3 donne une évaluation de l'intérêt que portent les dentistes aux publications de l'ADC et de l'opinion qu'ils en ont. Les dépliants d'information à l'intention du public et le Journal (évaluation générale) ont chacun une cote d'intérêt de 70, tandis que les délibérations ne dépassent pas 54. Pour les trois types de publications, l'évaluation de la qualité se situe aux environs de 60.

Pour cette question, le contenu du Journal a été divisé en huit catégories. L'intérêt des lecteurs va d'abord aux nouvelles sur la profession (81), articles sur les aspects cliniques (73) et aux éditoriaux (69). Ce sont les annonces (annonces classées: 50 et annonces commerciales: 43) qui ont les cotes les plus basses. Côté qualité, les notes les plus élevées ont été accordées aux éditoriaux et aux annonces classées (ex-aequo en première place), aux nouvelles sur la profession et aux articles sur les aspects cliniques pratiques. Les différences entre les cotes d'évaluation de l'intérêt et de la qualité donnent une bonne idée des secteurs à améliorer. Les plus fortes différences portaient sur les nouvelles de la profession, les articles sur les aspects cliniques pratiques et les expressions d'opinions. D'autre part, les deux catégories d'annonces ont obtenu une cote de qualité supérieure à l'intérêt qu'elles suscitent.

On a également voulu savoir quelle partie du Journal intéresse surtout les dentistes. Les résultats (tableau 4) montrent que les parties du Journal les plus régulièrement lues sont d'abord les articles (64%), suivis des nouvelles (61%) et des éditoriaux (53%). Les lettres et les annonces retiennent moins l'intérêt des lecteurs.

Les répondants aux questions ouvertes ont souvent mentionné le Journal. Parmi ceux qui ont précisé la chose la plus importante que fait l'ADC pour eux, 17% ont indiqué le Journal. De plus, un grand nombre de réponses classées sous d'autres rubriques comme l'éducation permanente, les nouvelles, l'information professionnelle et les nouvelles sur la profession se référaient implicitement ou explicitement au Journal. Les réponses aux questions ouvertes ont d'autre part révélé l'existence d'une petite minorité opposée au Journal; aux deux questions concernant les autres problèmes dans l'ADC et la principale critique qu'on pouvait faire à l'égard de l'ADC, 6% des répondants ont mentionné le Journal.

Perception des problèmes

Différents énoncés ont été proposés aux répondants, en regard de certains problèmes à l'intérieur de l'ADC (tableau 5). Les abstentions ont été relativement élevées pour cette question (de 18 à 44% selon les rubriques); un nombre assez

important de membres ne se sentait pas apte à donner des commentaires. Ceux qui l'ont fait ont reconnu, pour une bonne part, que ces problèmes existaient. Les quatre cinquièmes de ceux-ci ont déploré l'absence d'une définition claire d'un rôle national; les deux tiers ont retenu l'incapacité de l'Association de traiter certaines questions importantes ou le manque de communication à l'intérieur de la profession. Plus de la moitié des répondants à cette question ont reconnu que les conflits avec les associations provinciales ou le choix des priorités constituaient des problèmes, et les deux cinquièmes étaient d'avis que les membres ne disposaient pas de moyens d'expression suffisants. De nombreux membres perçoivent l'existence de problèmes graves à l'intérieur de l'Association, dans sa forme actuelle.

Même s'ils avaient la possibilité de le faire, 92% des répondants ont préféré ne pas ajouter à la liste des problèmes. De ceux qui l'ont fait, à peu près la moitié ont parlé de manque d'efficacité et de priorités, d'inutilité, d'éloignement. Les réponses ont été semblables lorsqu'on avait demandé aux membres de formuler la principale critique qu'ils avaient à l'égard de l'ADC (tableau 6). De plus, dans l'expression de leur critique principale, 10% des répondants ont déploré un manque de communication avec les membres, et 8% ont parlé de conflit ou de double emploi avec les associations provinciales, en plus du manque d'unité. Environ 40% n'avaient pas de critique majeure à l'égard de l'ADC.

Quel est le plus grand avantage?

Le tableau 7 donne les résultats à la question concernant l'avantage le plus important que tirent les membres de leur appartenance à l'ADC. Le plus important groupe de réponses (environ un tiers) rappelait le rôle national de l'Association, et mentionnait l'unité de la profession et la nécessité d'une voix nationale et d'un organisme représentant les dentistes devant les gouvernements et le public. Environ un cinquième des réponses se rapportaient à la protection financière et un autre cinquième spécifiquement au Journal. L'aspect nouvelles-informations-communications à l'intérieur de la profession rendait compte d'environ 15% des réponses. Environ un cinquième des membres n'ont pas répondu, et 7% ont fourni des réponses vagues du genre "rien, peu de chose, je ne sais pas".

Autres commentaires

La possibilité offerte aux répondants d'ajouter leurs commentaires nous a apporté une grande variété de réponses, dont certaines très pittoresques (côté louanges et côté critique). Seulement un tiers des répondants se sont prévalus de cette invitation. Une bonne partie (29%) des commentaires (tableau 8) préconisait le renforcement de l'Association et la réalisation d'objectifs précis. Un autre groupe de 26% des remarques pourrait être classé sous le titre "plus d'avantages pour le membre moyen": plus de communications, plus de renseignements, des services plus complets.

Ainsi, plus de 50% des commentaires exprimaient le vœu que l'ADC soit plus forte et plus efficace. Environ 16% des commentaires portaient sur l'organisation de l'Association, et 5% sur son administration. Un certain nombre de réponses (13%) visait à faire changer les priorités ou les valeurs de base; les commentaires voulant que l'ADC soit trop socialiste, ou pas assez, ont été rangés dans ce groupe. Des commentaires généraux de nature plutôt élogieuse ont été exprimés par 6% des répondants à cette question, tandis que 3% ont formulé des critiques ou des réserves.

Différences à l'intérieur de la profession

Il est étonnant de constater combien les attitudes diffèrent peu d'un groupe de dentistes à l'autre. On trouvera ci-dessous les principales constatations qu'on peut tirer de la comparaison entre les divers groupes. Pour les résultats exprimés sous forme de tableau, il convient de faire preuve de prudence dans l'utilisation des chiffres, particulièrement lorsqu'il s'agit de petites différences; par exemple, lorsque le groupe à l'étude est relativement faible, les différences peuvent être dues à des questions de hasard.

Francophones/Anglophones

On a constaté quelques différences entre les réponses fournies par les anglophones et les francophones, mais pour la plus grande partie des questions, les réponses étaient semblables. Lorsqu'il y a des différences, elles sont relativement peu importantes. Le tableau 9 fait la comparaison des réponses à l'égard des rubriques où on a constaté des différences; dans tous les autres cas, les réponses ont été semblables.

Les francophones membres de l'ADC sont légèrement moins favorables à l'Association elle-même et à ses services actuels. Les réponses concernant l'établissement des nouveaux services ont été semblables pour la plupart des rubriques, mais les dentistes francophones accordent plus d'importance aux articles sur les aspects cliniques mais moins d'importance à l'organisation et au financement des services dentaires aussi bien qu'au rôle de conseiller auprès des gouvernements, des associations provinciales et des dentistes praticiens; de plus, ils favorisent moins l'intervention de l'ADC dans les affaires provinciales que leurs confrères anglophones. À la question leur demandant de préciser les problèmes qu'ils perçoivent au sein de l'ADC, les dentistes francophones ont vu les mêmes problèmes que leurs confrères anglophones, sauf en ce qui a trait aux communications à l'intérieur de la profession et au manque de moyen d'expression des membres, qui ont été perçus par un plus grand nombre de francophones.

Les francophones ont pour le Journal un intérêt plus faible que leurs confrères anglophones; en particulier, ils s'intéressent moins aux nouvelles. Cependant, ils montrent plus d'intérêt pour les articles sur des situations cliniques réelles. D'autre part, les francophones accordent une meil-

leure note au Journal en ce qui a trait à la qualité générale; les articles concernant les recherches et les aspects cliniques sont ceux qui reflètent cette évaluation plus élevée de la part des francophones. Les différences d'évaluation du Journal sont difficiles à interpréter, étant donné que les parties françaises et anglaises du Journal n'ont pas été évaluées séparément. Il nous est impossible de savoir, par exemple, si les francophones ont surtout fait porter leur évaluation sur les articles rédigés en français.

Réponses selon les provinces

Les différences d'une province à l'autre sont relativement peu importantes. Le tableau 10 établit le profil des réponses par province, pour un certain nombre de rubriques du questionnaire. Les rubriques choisies sont celles pour lesquelles on aurait pu s'attendre à des différences selon la province d'origine (qu'il y ait eu ou non des différences), ainsi que les autres rubriques où on a constaté les plus vives différences entre les provinces. Voici un profil des réponses dans chaque province (par comparaison avec la moyenne canadienne):

Alberta — Plus favorable à l'ADC et au Journal que la moyenne canadienne, et légèrement plus faible que la moyenne pour la perception des problèmes.

Colombie-Britannique — Réponses moyennes dans l'ensemble, avec une perception légèrement plus faible que la moyenne des problèmes actuels.

Manitoba — Légèrement plus favorable que la moyenne à l'ADC, telle qu'elle existe actuellement, et perception un peu plus faible des problèmes.

Nouveau-Brunswick — Plus favorable que la moyenne à l'ADC, et perception plus faible des problèmes actuels, particulièrement en ce qui a trait aux conflits avec les associations provinciales.

Terre-Neuve — Très favorable à l'ADC elle-même, mais attache peu d'importance aux communications avec les gouvernements provinciaux; insiste plus que la moyenne sur l'élaboration de politiques à l'intention des gouvernements, des associations et des particuliers, et très intéressée aux nouvelles de la profession; moins critique que la moyenne pour la définition du rôle national, l'établissement des priorités, et les conflits avec les associations provinciales.

Nouvelle-Ecosse — Légèrement plus favorable que la moyenne à l'ADC, et relativement intéressée au Journal; faible perception des conflits avec les associations provinciales.

Ontario — Près de la moyenne pour la plupart des rubriques, mais critique plus fréquente sur l'incapacité de traiter des questions importantes et perception vive des conflits avec les associations provinciales.

Ile-du-Prince-Edouard — Plus favorable que la moyenne à l'ADC comme telle et à l'intervention automatique de l'Association au niveau provincial; insiste sur le rôle de l'Association dans l'élaboration des politiques, critique plus

que la moyenne l'incapacité de traiter des questions importantes, mais est un peu moins sensible que les autres à l'absence d'une définition claire du rôle national.

Québec — Accorde légèrement moins d'importance que les autres à l'ADC et à son rôle de conseiller dans l'élaboration des politiques; s'intéresse moins aux nouvelles de la profession; déplore un peu plus que la moyenne le choix des priorités, le manque de communications entre les membres et les moyens mis à leur disposition pour exprimer leur point de vue, et perçoit de façon un peu plus aiguë les conflits avec les associations provinciales.

askatchewan — Plus favorable que la moyenne à l'égard de l'ADC; moins intéressé que la moyenne à l'élaboration des modalités de pratique, et critique plus modérée que la moyenne de la définition du rôle national et des priorités; perception moins vive des conflits avec les associations provinciales.

Dans l'ensemble, les différences entre les provinces sont remarquablement faibles. La seule généralisation qu'on puisse tirer de ces constatations est que l'intérêt à l'égard de l'ADC est plus développé et la perception des problèmes légèrement plus faible dans les petites provinces que dans les grandes provinces.

Réponses selon l'âge

Tenant compte de l'âge des répondants, on obtient un autre regroupement des réponses pour certaines questions; ainsi les membres plus âgés étaient plus favorables à l'ADC elle-même et au Journal que les membres plus jeunes. La question générale à propos de l'importance de l'ADC a révélé l'existence d'un schème de comportement particulier en fonction de l'âge, mais les autres questions plus précises concernant les fonctions actuelles de l'ADC n'ont pas confirmé cette constatation. Il a été impossible d'établir une relation avec l'âge dans les réponses portant sur les nouveaux services ou la perception des problèmes à l'intérieur de l'organisation. Cette anomalie apparente peut s'expliquer si on accepte que l'appui plus généreux des membres provient d'une plus grande identification affective avec l'Association, laquelle ne se traduit pas dans les évaluations plus réalistes des membres concernant les activités présentes de l'organisation (sauf en ce qui a trait au Journal). Le tableau 11 indique que l'évaluation du Journal, au double point de vue de l'intérêt et de la qualité, est moins favorable à mesure qu'on descend dans les tranches d'âge. Les évaluations globales se répercutent dans les évaluations de différentes catégories de contenu du Journal, et dans les réponses concernant la lecture du Journal.

Le profil des opinions en fonction de l'âge a été comparé avec celui qu'a révélé une petite enquête exécutée par l'American Dental Association en mars 1974. Cette enquête a démontré que les réponses étaient de plus en plus favorables avec la progression de l'âge, mais d'une façon beaucoup plus frappante que dans le cas de notre enquête.

Réponses selon le sexe des répondants

On n'a pas constaté de différences importantes entre les réponses fournies par les hommes et par les femmes dentistes, à quelques exceptions près. Les femmes dentistes ont porté un jugement légèrement moins favorable dans leur évaluation globale de l'ADC (réponses "très importante": femmes 40%, hommes 47%). D'autre part, les femmes dentistes favorisent dans une plus large mesure l'intervention automatique de l'ADC au palier provincial (pour l'intervention automatique: femmes 42%, hommes 23%). De même, les femmes évaluent plus favorablement le Journal, au double point de vue de l'intérêt (l'intérêt est élevé chez 50% des femmes, et seulement chez 39% des hommes) et de la qualité (excellente: 39% des femmes, contre 31% des hommes).

L'opinion des dentistes spécialistes

Les spécialistes ont montré un peu plus d'intérêt à l'égard de l'ADC que les généralistes. Ainsi, l'ADC a été jugée très importante par 54% des spécialistes, comparativement à 45% des généralistes. Pour la plupart des autres questions, les réponses ont été semblables. Toutefois, les communications à l'intérieur de la profession sont considérées comme très importantes par 80% des spécialistes et par seulement 70% des généralistes. Les spécialistes se sont montrés moins intéressés à un service de consultation pour la solution de problèmes cliniques (spécialistes 36%, autres 49%), et aux articles sur des aspects cliniques pratiques qui paraissent actuellement dans le Journal (spécialistes 35%, autres 52%).

Participation à des organisations professionnelles

Comme on pouvait s'y attendre, les dentistes ayant été les plus actifs au sein de leur association professionnelle ont attaché plus d'importance au rôle de l'ADC et ont vu plus de problèmes que leurs confrères moins engagés. Le tableau 12 fait voir les réponses à la question concernant l'importance générale de l'ADC. L'accentuation des réponses en fonction de la participation à des associations professionnelles est de plus en plus marquée à mesure qu'on passe du palier municipal, au palier provincial, puis au palier fédéral.

Type d'activité professionnelle

Peu de variations ont été constatées dans les réponses en fonction du type d'activité professionnelle, et celles qui sont apparues étaient directement reliées à cette activité (par exemple, les dentistes oeuvrant dans le domaine de l'enseignement ont attaché plus d'importance à la question de l'agrément).

Taille de l'agglomération

Les responsables du sondage s'attendaient à ce que le rôle de l'Association à l'égard des dentistes pratiquant dans les régions métropolitaines soit différent de celui qu'elle remplit auprès des dentistes ayant moins de possibilités de

contact avec leurs confrères. Les réponses ont donc été analysées en fonction de la taille de l'agglomération où le dentiste demeurait. Le tableau 13 donne les réponses à certaines rubriques choisies qui auraient pu confirmer cette hypothèse.

La comparaison des réponses ne permet pas d'arriver à cette conclusion; les différences sont accessoires et tiennent probablement à des questions de hasard.

Etudiants membres de l'Association

L'équipe de travail considère que les attitudes des étudiants dentistes à l'égard de l'Association sont très importantes, et elle a voulu faire porter son enquête auprès d'eux. Seulement 51% des étudiants en art dentaire sont membres de l'ADC à l'heure actuelle. On a donc conçu un sondage comportant un questionnaire légèrement modifié, qui devait être remis à tous les étudiants, et non pas seulement aux membres. Certaines difficultés administratives, reliées surtout à la grève postale du printemps 1974, ont retardé la progression de cette enquête. Elle sera terminée à l'automne de 1974, et fera l'objet d'un compte rendu distinct.

Conclusions

Le sondage a permis de bien cerner les attitudes des dentistes canadiens, et les auteurs espèrent que ses résultats seront utiles à l'Association, au moment où elle s'apprête à faire le bilan de ses présentes activités et à examiner ses priorités pour l'avenir. Les responsables de l'Association devront faire preuve d'une grande faculté d'assimilation pour retenir le détail des constatations. Il est toutefois possible, dès maintenant, d'établir un profil global des attitudes générales des membres à l'égard de l'ADC, d'après les résultats du sondage.

Du côté positif, il faut d'abord noter la proportion élevée des réponses, les jugements favorables quant à l'importance de l'ADC, et l'intérêt qu'on porte à ses services. L'Association a été priée de se consolider et d'orienter son activité.

Les aspects moins pratiques du rôle de l'ADC dans le raffermissement de l'unité de la profession et comme représentante des dentistes devant la société canadienne (gouvernements et grand public) ont aussi retenu l'attention des membres. D'autre part, ceux-ci ont exigé la mise sur pied de services pratiques nouveaux et améliorés, qui peuvent profiter directement au praticien moyen.

Côté négatif, les réponses aux questions ont révélé une certaine insatisfaction à l'égard de l'Association; elles ont aussi indiqué un écart appréciable entre l'importance qu'on attachait aux services de l'ADC et l'efficacité de ces services. Les orientations favorisées par les membres ouvrent la voie à un nombre important de changements. L'absence relative de différences dans les attitudes, en fonction des lieux de pratique et des autres points de comparaison, peut être interprétée comme l'expression d'une vocation d'envergure nationale pour l'ADC.

Les auteurs sont redevables à un certain nombre de personnes pour l'aide qu'elles ont apporté au sondage; il ne sera malheureusement pas possible de les nommer toutes ici. Nous voulons remercier en particulier le Dr. R. M. Grainger, qui a préparé les tableaux mécanographiques des résultats et fait office de conseiller général; Mlle Alexandra Kunachowicz, qui nous a aidés dans le classement des réponses ouvertes et les calculs statistiques; le Dr. M.-Y. Trépanier, qui a participé à la traduction des textes; les membres de l'équipe de travail qui faisaient partie du comité consultatif sur le sondage; les Drs. D. McDougall, E. T. Duke, et G. Barrett dont l'expérience nous a été très profitable; et Mlle Anne Turner, qui s'est acquittée d'un travail important de secrétariat.

Monsieur G. Grant Clarke a dirigé le sondage au nom de l'équipe de travail formée par l'Association dentaire canadienne. M. Clarke est secrétaire et associé de recherche au Conseil des universités de l'Ontario.

Le docteur John B. Macdonald a été nommé président de l'équipe de travail de l'Association dentaire canadienne. Il est directeur administratif du Conseil des universités de l'Ontario et professeur de l'enseignement supérieur à l'Université de Toronto.

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Antibiotics for topical use

Joan deVries, M.D.
L.E. Francis, DDS, MSc
Montreal

A group of antibiotics are reserved for topical use in dentistry because of their serious toxic side effects when administered systemically. When these agents were first introduced, the profession felt that they had reached a panacea for the control of oral infections. Considering the fact that some of these agents are effective against gram-positive micro-organisms, others against gram-negative, and some with a broad spectrum action, it appeared that most infections in the oral cavity could be quickly eradicated. The topical antibiotics were introduced for the treatment of septic root canals, infected alveolar sockets, periodontal abscesses, pericoronitis and a variety of other oral soft tissue lesions, in the hope that they would be of some benefit to the patient. A topical agent is at a disadvantage in the oral cavity because of the constant flow of saliva and passage of food which accumulates on dressings. Extraneous material absorbs as much or more of the topical agent than the site of the infection. As it is not practical to think in terms of changing dressings every few hours, one would assume that after a short period of time any packing or application of the drug is inactivated other than when sealed into an area such as a root canal. Following their widespread use in the 1950's and 60's, clinicians gradually returned to topical antiseptics such as nascent oxygens, camphophenique and parachlorophenol, which appeared to give as good results as the topical antibiotics. This does not imply that these antibiotic agents are not highly effective against the bacteria but the method of application may not have been carried out in such a fashion as to allow the drug to be active at the most critical area involved.

Numerous antibacterial agents are available for topical use. In selecting a preparation the dentist should always keep two points in mind: (a) the drug should have as wide an antibacterial spectrum as possible; and (b) antibiotics commonly used for systemic administration should be avoided, so that if drug resistance or hypersensitivity should occur the patient is not deprived of the benefits of a valuable drug for systemic treatment. For example, the penicillins and penicillin substitutes should never be considered for topical application.

Those drugs which have been used most extensively for topical application are: bacitracin, neomycin, polymixin and framycetin. Gentamycin is a comparably new topical antibiotic which has not been widely used by the dental profession, but because of its efficient action it may become useful and should be mentioned. Nystatin is an antifungal agent.

Antibacterial spectrum

Bacitracin has a narrow spectrum being chiefly active against gram-positive cocci, particularly the oral streptococci. Neomycin has a wider spectrum of activity against both gram-positive and gram-negative organisms, with the exception of the streptococci. Polymixin is effective against gram-negative rods, particularly species of pseudomonas. Framycetin has an extensive broad spectrum action. Gentamycin is highly active against many bacterial species including *Staph. aureus* and species of pseudomonas. Nystatin has little or no effect on bacteria; it is chiefly active against strains of *Candida albicans*.

Mechanism of action

All of these agents appear to have a bactericidal or fungicidal effect. Their intimate action on the micro-organisms is not totally understood, but it would appear that they act by disrupting the metabolism of the cell.

Absorption and excretion

When applied topically, absorption from the oral cavity is so insignificant that no toxic side effects appear to occur, with the exception of neomycin and framycetin which have been shown to produce allergic reactions in some patients. Otherwise, they can be applied with confidence.

Therapeutics

Bacitracin, neomycin and polymixin are usually used in combination. Together they give a wide coverage of gram-positive and gram-negative bacteria which is necessary in the treatment of dental infections because of the mixed bacterial species involved. A variety of proprietary preparations are available, but a useful prescription for office use is as follows:

Benzocaine	5.0 gm.
Polymixin B sulfate	1 gm.
Bacitracin	0.5 gm.
Neomycin sulfate	1 gm.
Water soluble base to	200gm.

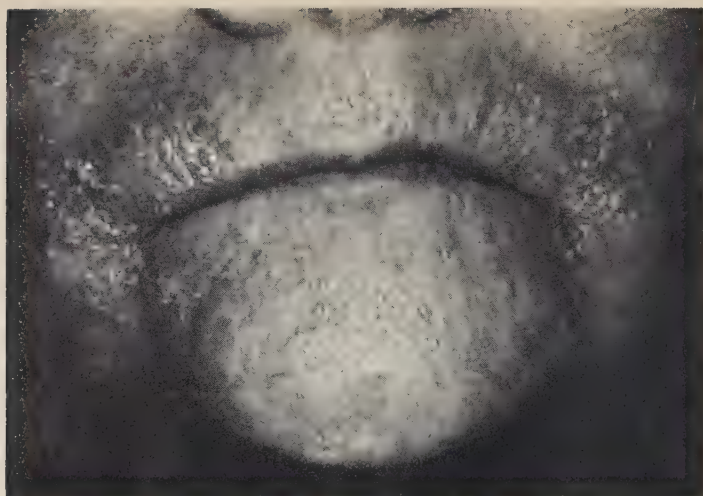


Fig 1 An example of topical dermatitis which developed as the result of treatment with the polyantibiotic mixture containing benzocaine.

Benzocaine, the topical anaesthetic, is included to reduce pain. Occasionally patients will develop an allergic reaction to the anaesthetic and it should not be used in patients who have a history of allergy (Fig 1).

For pericoronitis, sterile gauze saturated with this mixture can be inserted under the flap and may be used in a similar manner for infected sockets. In endodontics the ointment can be introduced into the canal with a paper point and the point left as a dressing.

Framycetin is supplied as a powder and can be used in solution or applied directly to an infected surface or the root canal.

Gentamycin is available as a cream or an ointment. The cream is preferred for wet surfaces. This antibiotic has not been as extensively used as the polyantibiotic mixture but could be a valuable drug in situations where topical antibiotics are necessary.

Topical antibacterial agents can be used to advantage on benign oral ulcerations occurring in such conditions as aphthous, herpes and erythema multiforme, as once these lesions are exposed to the oral cavity they become secondarily infected by oral micro-organisms. It should be emphasized that they do not actually cure these conditions but reduce healing time by destroying the secondary invaders.

Nystatin is used in the treatment of oral infections due to *Candida albicans*. These organisms are a common component of the normal oral microflora and as such are essentially non-pathogenic. However, under certain conditions they may proliferate and increase to such an extent that the oral cavity becomes overgrown, producing the condition known as thrush. The commonest aetiological agents of such a condition are the antibiotics, particularly those classified as broad spectrum. When these are administered for the treatment of infections elsewhere in the body the oral microflora is affected to such an extent that sensitive bacteria are killed, allowing the resistant yeasts to flourish. Other underlying causes of oral candidiasis include such drugs as the corticosteroids and immunosuppressive agents. An enquiry into the patient's history can often be helpful in this respect. Oral

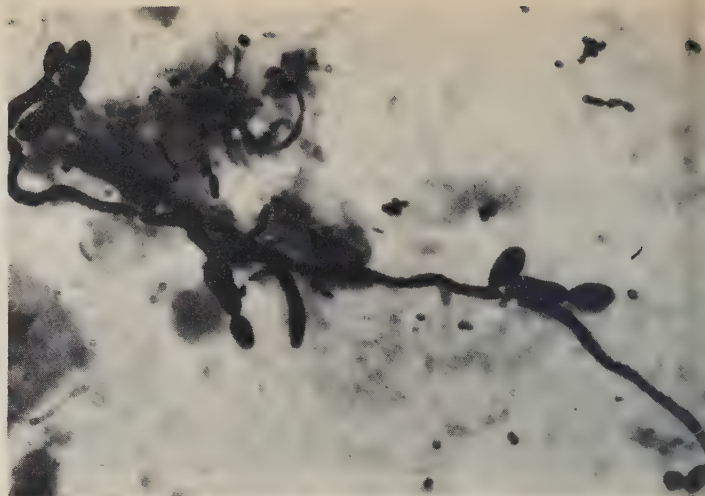


Fig 2 Gram stained smear of scrapings from a patient with oral candidiasis demonstrating branching yeasts.

candidiasis, in particular, can be a problem in elderly patients, many of whom have dentures. The oral cavities of edentulous patients contain higher than normal numbers of yeasts, with the result that when an abrasion of the mucous membrane occurs under a denture it becomes infected with yeasts. Such denture sores may lead to extensive oral infection and perleche will often develop. When candidiasis is suspected it is important that a definitive diagnosis be made, as nystatin is ineffective in the treatment of ulcerative necrotizing gingivitis (Vincent's) which may be clinically similar in the early stages of infection. The diagnosis may be made by examination of either a wet mount of the exudate or a gram-stained smear in which the spores of candida are readily recognized (Fig 2). After removing the initial cause of the infection, e.g. withdrawing the antibiotic, improving the dentures, the patient is instructed to suck a tablet of nystatin and to maintain the material in the oral cavity for as long as possible, and despite the bitter taste, the mouth should not be rinsed.

Antibiotics for topical use are not used for oral infections as often as they could be. This may be due to their limited effectiveness, mostly because of careless application. If applied in the proper manner, good results should occur, making patients relatively comfortable and free of localized infection within a short period of time. It would be wise to reconsider these agents as valuable adjuncts to treatment.

Oral dosage:

Nystatin — 1 tablet (100,000 units) three times a day.

Nystatin — Mycostatin (Squibb)

Framycetin — Soframycin (Roussel)

Gentamycin — Garamycin — topical (Schering)

For combinations of bacitracin, neomycin and polymyxin consult the *Compendium of Pharmaceuticals and Specialties*, 9th edition, 1974, published by the Canadian Pharmaceutical Association.

Dr. Francis is professor and chairman, Dental Pharmacology and Therapeutics, and Dr. deVries is associate professor of microbiology, McGill University, Montreal.

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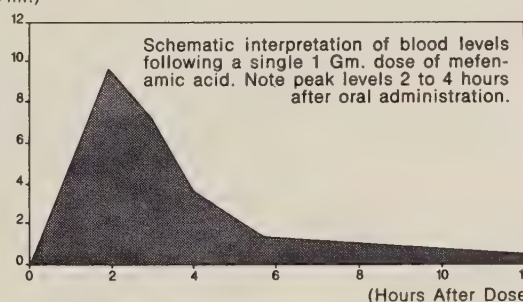
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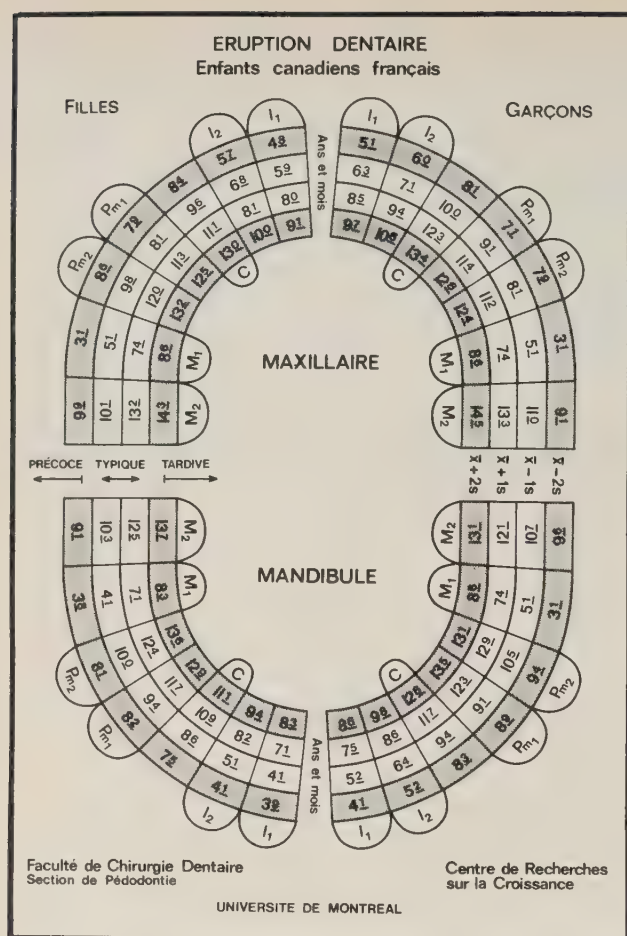


Fig 1 Eruption dentaire (enfants canadiens français).

Correction:

Dans l'article intitulé "Emergence des dents permanentes chez les enfants canadiens-français" des Drs Perreault, Demirjian et Jenicek, publié dans le numéro d'avril (pp. 306-313), on a publié quatre illustrations par erreur. En effet, celles-ci font part de la deuxième partie de l'article qui apparaîtra dans un prochain numéro. Voir cette page pour les illustrations correctes.

Le docteur J. Georges Perreault est chef de la Section de Pédiodontie, Faculté de Médecine dentaire, Université de Montréal; le Dr Milos Jenicek est attaché au Centre de Recherches sur la Croissance et est également professeur au Département d'épidémiologie de l'Ecole de Santé Publique de la Faculté de Médecine, Université de Montréal et le Dr Arto Demirjian est directeur du Centre de Recherches sur la Croissance, Université de Montréal.

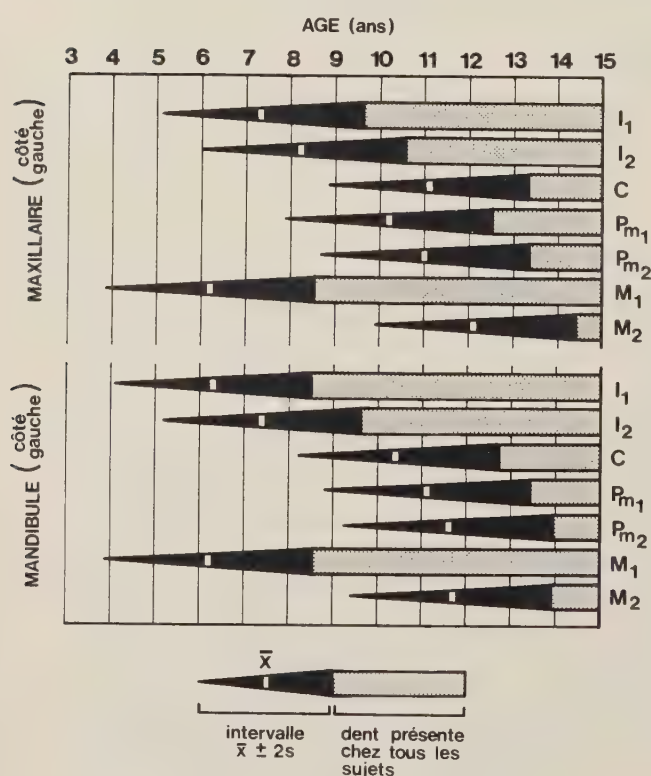


Fig 2 Eruption clinique des dents permanentes (garçons canadiens français, Montréal 1970).

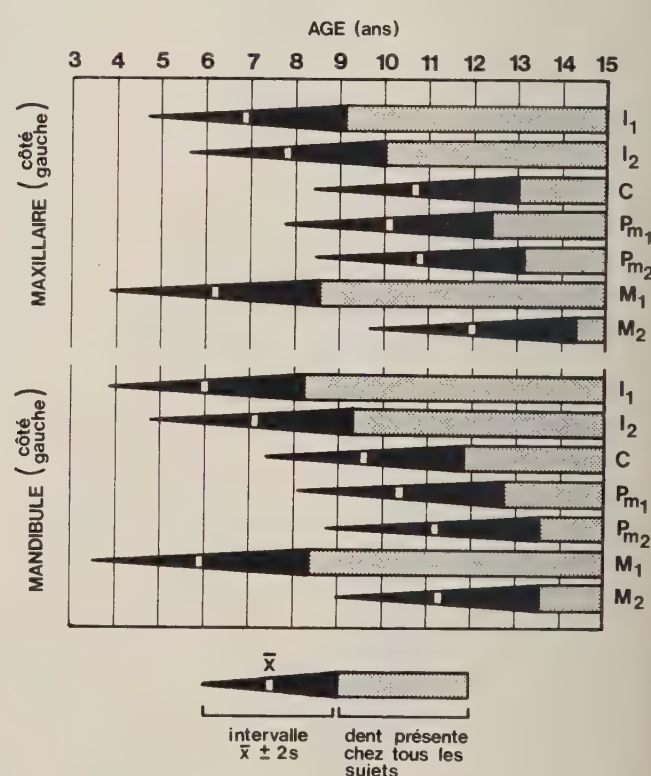


Fig 3 Eruption clinique des dents permanentes (filles canadiennes françaises, Montréal, 1970).

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Applications with details of experience should be directed to:

Dr. W.A. Cotter
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College of Dentistry
University of Saskatchewan
SASKATOON, Saskatchewan, Canada
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Applications, with curriculum vitae, should be directed to:

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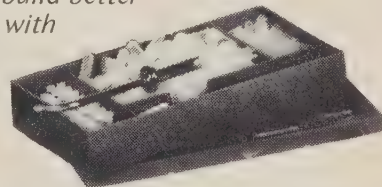
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24/25 Oct.	Review of Oral Disease	Dr. J. Sapp	\$100*	32
22/23 Nov.	Essentials of Periodontal Therapy	Dr. B. J. Zulqar-nain	\$ 75	no limit
28/29 Nov.	Principles of Minor Oral Surgery for the General Practitioner	Dr. A. G. Parnell	\$ 85*	no limit
6/7 Dec.	Paralleling Technique (Extension or Long Cone) for the Dental Assistant	Dr. J. A. Reid	\$ 60*	12
1975				
15 Jan.	Interpretive Radiology	Dr. J. A. Reid	\$ 50*	20
21/22 Feb.	Paralleling Technique (Extension or Long Cone) for the Dental Assistant	Dr. J. A. Reid	\$ 60*	12
7 Mar.	Behaviour Management in Paedodontics	Dr. G. Z. Wright	\$ 45* per dentist \$ 20 per aux.	40
14/15 Mar.	What's New in Operative Dentistry	Dr. R. E. Jordan	\$100*	no limit
19 Mar.	Oral Radiographic Technique for the General Practitioner	Dr. J. A. Reid	\$ 50*	10
21 Mar.	Oral Medicine for the General Practitioner	Dr. R. I. Brooke	\$ 50*	40
26/27 Mar.	Recent Advances in Operative Dentistry, Endodontics and Periodontics	Dr. R. E. Jordan	\$100*	no limit
12 Apr.	Anterior Restorations: Adhesive Resin Techniques in Restorative Dentistry	Dr. R. E. Jordan	\$ 50*	no limit
30 Apr. 1 May	Recent Advances in Operative Dentistry and Endodontics	Dr. R. E. Jordan	\$ 75*	no limit
12-17 May	Occlusal Correction of the Natural Dentition	Dr. D. S. Moore	\$300†	12
June (one day)	Clinical Preventive Procedures for the Dental Office	This course is only tentatively scheduled.		

NB: Please address applications to:

Chairman
Committee on Continuing Education
Faculty of Dentistry
The University of Western Ontario
 London, Canada
 N6A 3K7

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INFORMATION RE EXAMINATIONS

Part I (Basic Sciences) Examinations, leading to Fellowship in the Royal College of Dentists of Canada will be held on Monday, June 16, 1975, in regional centres across Canada.

Applications for these examinations, with the \$100.00 examination fee, must be received at this office by **January 15, 1975**.

Application forms (for the Part I examinations) and further information may be obtained from the Secretary-Registrar-Treasurer, Dr. John E. Speck, Ste. 614, 170 St. George Street, Toronto, Ontario, M5R 2M8.

Part II (oral) Examinations will be held, as usual, in Toronto late in November or early in December.

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FDI PUBLICATIONS

1. The Story of the FDI, by John Ennis — an account of the development of the dental profession (English); \$7.00
2. Basic Fact Sheets on Dental Manpower (including auxiliaries), education, licensure, the prevalence of dental diseases, private practice and public dental health services, and fluoridation policy in 80 countries. (English, French, and Spanish); \$25.00
3. Dental Lexicon of Equivalent Terms in English, French, German, Italian and Spanish; \$12.00
4. Early Detection of Oral Cancer (English, French, German and Spanish); single copies \$2.50; orders of 50–99 copies \$2.00 each; orders of 100 and over \$1.50 each.
5. Social Sciences and Dentistry — a critical bibliography (English); \$7.50
6. Handbook of Regulations of Dental Practice (English); \$4.00
7. FDI Technical Report No. 1, 1974: Principal Requirements for Controlled Clinical Trials of Caries Preventive Agents and Procedures (English, French, German and Spanish); \$2.00
8. FDI Technical Report No. 2, 1974: A Method for Measuring Occlusal Traits (English, French, German and Spanish); \$2.00
9. Transactions of 2nd International Conference on Oral Epidemiology — Epidemiological Assessment of Dentofacial Anomalies (English); \$2.00
10. Policy Statements of the Fédération Dentaire Internationale 1952–1969 (English, French, Spanish)*
11. Rules for Radiation Hygiene (English, French, German and Spanish)*

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ONTARIO DENTURE THERAPISTS PASS EXAMINATIONS

The Ontario Ministry of Health has announced that of 234 applicants for the August examination to obtain licenses to practise as denture therapists 167 passed, 55 failed, six withdrew and six failed to appear. Candidates included denturists, dental technicians and foreign dentists who have either not yet written or have been unsuccessful in NDEB examinations. Successful completion of the exam entitles the candidate to a six-month licence to practise during which time he must also attend an upgrading course. Denture therapists will be entitled to make full dentures without dentist supervision.

Controversy continues to surround the upgrading program planned by the Ministry. The Royal College of Dental Surgeons of Ontario announced it would not oppose the examinations but still favored a four-month upgrading program rather than the four-week program proposed by Health officials. The Ontario Dental Association originally asked its members not to serve as examiners or assist the government in formulating upgrading courses.

QUEBEC DENTAL SURGEONS APPOINT EXECUTIVE DIRECTOR

Claude Chicoine of Montreal has been named as the new executive director of the Quebec Dental Surgeons Association. It had been felt for some time that with the growing demands of the Association including negotiations with the provincial government a full-time head was required. Dr. Chicoine has closed his private practice and established an office in Montreal, as the Association's headquarters.

ALBERTA DENTAL FACULTY RESIGN

The University of Alberta Dental Faculty has received the resignations of seven full-time and approximately 13 to 15 part-time members. The part-time members have resigned, conditional on the retention of the seven full-time staff.

Stated reasons for the resignations are the declining morale of the Faculty because of procrastination and delay in the provision of adequate physical plant and modern teaching facility; and because salary levels are not competitive with dental incomes in Alberta nor with other North American dental schools.

The Alberta Dental Association has sent letters of support concerning a market supplement, to the Chairman of the Board of the University, with copies to the President of the University and the Minister of Advanced Education. They feel the situation is serious and could be prejudicial to the quality of education given in the School.

FALSE REPORT ON AMERICAN RECONSIDERATION OF FLUORIDATION

The American Dental Association has denied that the U.S. Food and Drug Administration is going to reconsider fluoridation as a public health measure. The ADA states flatly that columnist Jack Anderson's report that the FDA "has taken some careful, tentative steps to reconsider fluoridation" is simply not true. Food and Drug officials have confirmed that there are no plans to act on fluoridation. In fact, the officials said that water fluoridation is not even within FDA purview.

LES CHIRURGIENS-DENTISTES DU QUEBEC SE NOMMENT UN ADMINISTRATEUR EXECUTIF

Le docteur Claude Chicoine, de Montréal, a été nommé administrateur exécutif de l'Association des chirurgiens-dentistes du Québec. L'Association se rendait compte depuis quelque temps déjà que son administration, y compris les négociations avec le gouvernement provincial, prenait de plus en plus d'importance et qu'elle avait besoin d'un directeur qui y consacre tout son temps. Le docteur Chicoine a fermé son cabinet et il a maintenant son bureau à Montréal au siège social de l'Association.

LES DENTURISTES D'ONTARIO SUBISSENT DES EXAMENS

Le ministère de la Santé d'Ontario a fait part que 234 candidats qui se sont soumis à l'examen du mois d'août en vue de l'obtention d'une licence pour exercer comme denturistes, 167 ont réussi l'examen, 55 l'ont échoué, six se sont retirés et six ne se sont pas présentés. Les candidats comprenaient des denturistes, des techniciens dentaires et des dentistes étrangers qui ne s'étaient pas encore présentés aux examens au Bureau national d'examen dentaire ou qui les avaient échoués. La réussite de tout l'examen octroie au candidat une licence pour six mois au cours desquels il doit suivre un cours de perfectionnement. Les denturistes sont autorisés à confectionner des prothèses complètes directement pour le public sans surveillance de la part des dentistes.

LA FACULTE DENTAIRE D'ALBERTA DEMISSIONNE

La Faculté dentaire de l'Université d'Alberta a reçu la démission de sept professeurs à temps plein et celle d'environ 15 professeurs à temps partiel. Les professeurs à temps partiel ont démissionné à condition que les sept professeurs plein-temps gardent leur poste.

Les raisons invoquées pour ces démissions en masse se basent sur le moral qui se détériore à la Faculté à cause des retards et des délais de la part du gouvernement à lui procurer des locaux convenables et des disponibilités modernes pour l'enseignement, et sur le niveau des salaires qui ne sont pas en rapport avec les revenus des dentistes d'Alberta, ni avec ceux des autres écoles dentaires dentaires nord-américaines.

L'Association dentaire d'Alberta a fait parvenir des lettres d'appui au sujet d'un surplus de marché au président du Conseil de l'Université avec copies au président de l'Université et au Ministère des études supérieures. L'Association croit que la situation est sérieuse et pourrait être préjudiciable à la qualité de l'enseignement prodigué à l'école dentaire.

FAUX RAPPORT AU SUJET DE QUESTIONS POSEES SUR LA FLUORATION

L'Association dentaire américaine a nié que la Division des aliments et drogues des Etats-Unis a mis en cause la fluoration comme mesure de santé publique. L'ADA déclare tout simplement faux le communiqué du chroniqueur Jack Anderson que "la DAD a pris des dispositions prudentes pour rouvrir le dossier de la fluoration". Des officiers de la Division ont confirmé qu'il n'y a aucun projet dans ce sens et même que la fluoration de l'eau n'est pas de son domaine.

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Normal home usage—children—J.A.D.A. 72:408, 1966

Normal home usage—children—J. Canad. Dent. Assn. 36:262, 1970

Normal home usage—children—J. Dent. Child. 37:501, 1970

Normal home usage—children—J. Canad. Dent. Assn. 38:35, 1972

Normal home usage—children—J. Canad. Dent. Assn. 38:155, 1972

Fluoridated water—children—J. Dent. Child. 38:211, 1971

Supervised brushing—children—J.A.D.A. 58:42, 1959

Supervised brushing—children—J.A.D.A. 64:217, 1962

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SnF₂ topical—children—J. Dent. Child. 28:5, 1961

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SnF₂ topical and prophylaxis—children—J.A.D.A. 72:392, 1966

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Oct 1974/Volume 40/No 10

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Executive Affairs 646

Editorial

We have a good thing going! 644

Preventive public dental health programs 644

Special Features

The three D's — Neilson 654

How much does the public know about preventive dental health — Epstein, Moore and McPhail 657

Student-operated preventive care demonstration — Rubenstein 663

How to gain community fluoridation — Bowen 666

ODQ's present motivational campaign — Chicoine 669

L'évolution de la campagne actuelle de motivation amorcée par l'ODQ — Chicoine 671

Regular Features

Dentistry in the News 648

Deaths 653

Announcements 642

Articles

Evaluation of a fluoride prophylaxis paste in a fluoridated community — Schutze Jr., Forrester and Balis 675

Classified advertising 685

Advertisers' index 692

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All statements of opinion and supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association.

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La direction du Journal ne partage pas nécessairement les opinions qu'expriment ses collaborateurs à moins que l'Association Dentaire Canadienne ne les ait adoptées officiellement.

Announcements/Avis

Information about other meetings or courses, including American continuing education courses, may be obtained by writing to CDA headquarters.

Canadian Dental Association
1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale
1975 Chicago, USA, Oct 26-30

Royal College of Dentists of Canada

Part I Examinations (Basic Sciences), leading to Fellowship in the Royal College of Dentists of Canada will be held on Monday, June 16, 1975, in regional centres across Canada. Applications and \$100 fee must be received by January 15, 1975.

Part II Examinations (Oral) will be held in Toronto late November or early December, 1975.

Application forms for the Part I Examinations and further information may be obtained from Dr. John E. Speck, Ste. 614, 170 St. George St., Toronto, Ont. M5R 2M8.

Continuing Education

Anaesthesia and Pain Control
Toronto. N₂O/O₂ sedation. R. S. Locke. May 28-30, 1975. Reg. limit 20. \$200.

Dental Handicapped
Toronto. Dental care for the handicapped. J. A. Hargreaves. Nov. 4-6, 1974. Reg. limit 8. \$100.

Dental Materials
Toronto. Recent developments in dental materials. D. C. Smith. Oct. 28-30, 1974. Reg. limit 10. \$100.

Endodontics
Dalhousie. Current concepts in endodontics. M. Goldman, P. J. Molloy, M. D. Peikoff and H. Wiener. Nov. 15-16, 1974. \$90.

McGill. Advanced concepts in endodontics. B. Sedlezky and B. H. Wiener. March 28-29, 1975. Reg. unlimited. \$100.
Toronto. Endodontics. J. M. Phillips, Feb. 5-7, 1975. Reg. limit 10. \$150.

Oral Medicine
Toronto. Oral medicine, pathology and radiology. J. H. P. Main. Feb. 10-12, 1975. Reg. limit 10. \$100.

Oral Pathology
Toronto. Oral medicine, pathology and radiology. J. H. P. Main. Feb. 10-12, 1975. Reg. limit 10. \$100.
Toronto. The temporomandibular joint pain dysfunction syndrome. G. A. Zarb. Dec. 12-13, 1974. Reg. limit 15. \$100.

Oral Surgery
Toronto. Oral surgery. P. T. Smylski. March 17-21, 1974. Reg. limit 12. \$150.

Orthodontics
Toronto. Orthodontics for the general practitioner. D. G. Woodside. May 5-9, 1975. Reg. limit 25. \$150.

Paedodontics
Toronto. Paedodontics. J. A. Hargreaves. Apr. 30 - May 2, 1975. Reg. limit 16. \$100.

Periodontics
Alberta (Edmonton). Periodontics and plaque. C. J. Revell, D. J. Carmichael

and A. H. Melcher. Nov. 8-9, 1974. \$60.

Toronto. Periodontics. J. E. Speck. March 5, 12, 19 and 26; April 2 and 23, 1975. Reg. limit 12. \$200.

McGill. What's new in periodontics? R. F. Harvey. Jan. 10, 17 and 24, 1975. Reg. limited. \$150.

Preventive Dentistry
Toronto. Preventive dentistry. R. C. Burgess. Apr. 21-23, 1975. Reg. limit 15. Dentists \$75; Hygienists and Assistants \$35.

Toronto. Diet, Analysis and consultation in preventive dentistry. M. Truvert. May 12-13, 1975. Reg. limit 24. \$25.

Prosthodontics—Crown and Bridge
Alberta (Edmonton). Occlusion and other aspects of crown and bridge. M. D. Jones. Nov. 28, 29 and 30, 1974. \$160.

Toronto. Fixed bridgework in general practice (participating course). D. B. McAdam. Apr. 30 - May 2, 1975; and May 15-16, 1975. Reg. limit 15. \$200.

Prosthodontics—Partial Dentures (removable)
Toronto. The treatment of the partially edentulous patient using removable partial dentures. G. A. Zarb. Feb. 27-28, 1975. Reg. limit 15. \$100.

Miscellaneous
Toronto. Emergency measures. R. S. Locke. Oct. 28, 1974. Reg. limit 15. \$25.

Toronto. Oral medicine, pathology and radiology. J. H. P. Main. Feb. 10-12, 1975. Reg. limit 10. \$100.
Toronto. The terminal dentition, gerodontics and the edentulous patient. Apr. 14-18, 1975. G. A. Zarb. Reg. limit 8. \$200.

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HOST ORGANIZATION "ASOCIACION DENTAL MEXICANA, A.C."

We have a good thing going!

In this issue, Dean J. W. Neilson comments on the Canadian Fund for Dental Education, marking the period of the year when financial support is solicited from all Canadian dentists. This has been a record-shattering year of activity for the Fund — but it is still not enough. Seventeen potential teachers or research trainees shared about \$47,000 in grants. If you do your arithmetic, you will see that the average amount received by any applicant was far from lavish — and other worthy applicants could not be helped at all. Special projects in the dental schools totalled \$10,000. These funds helped the Deans to finance unbudgeted but urgent projects. Another \$15,400 supported research, teaching and student conferences. The accreditation program required \$15,648 to carry out its function of maintaining our national dental educational standards. Six thousand dollars went to support the highly important Dental Auxiliary Workshop Conference, and \$4,000 for the Student Table Clinic Program.

Without the CFDE, these projects would have been almost impossible to finance. The fund offers us all the opportunity to help ourselves by improving our own profession. We have a very good thing going — let's get behind it by sending in our cheques.

Preventive public dental health programs

Whose responsibility is prevention? We remember the early days of fluoridation when opponents argued "there can't be anything to water fluoridation because the dentists support it and they wouldn't ruin their own business." The record has shown this to be completely false, and the grossest error is that the profession is not sincerely interested in preventive

dentistry. Canadian practitioners did not merely echo Association policy. Hundreds, if not thousands, of dentists voluntarily gave of their time to speak at public meetings, to be members of delegations to local governments, to prepare literature or to take part in broadcasts on radio or television. And they did these things because they felt it was one of their professional obligations as the guardians of dental health in this country. But how far does this responsibility for promotion go? We believe it is the profession's duty to have the knowledge regarding prevention at hand and to make it easily available to patients and to agencies such as governments who bear the legal responsibility for dental health. But the responsibility for driving the message home strongly enough to really motivate the public in competition with much misinformation contained in the commercial advertisements heard or seen daily, cannot and should not be carried by the profession.

This issue carries accounts of some of the new preventive programs in Canada and the status of water fluoridation. They are very worthy of publicity at this time when dental health care programs are being formulated across the country. Free service for all makes an attractive political slogan; but the profession would be failing in its duty if it did not say loudly and clearly to health planners that preventive dentistry supported by research is the only sound long-term program.

The costs of service programs unbridled by public dental health preventive education are sure to soar to heights not anticipated by the planners. There will be only two ways to control these costs. One (the wrong way) will be to limit the services available or have the services rendered by less highly trained personnel, resulting in lower health standards. The other way will be to implement strong programs of prevention and so reduce the need for care. Why don't we give all our attention to launching these preventive programs now?

R.M.G.



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¹ Stebner, C. M., Economy of Sound Fundamentals in Operative Dentistry, J. A. D. A. 49:294, Sept. 1954.

² Anderson, J. A., Lecture at Dallas Midwinter Clinic, 1961.

* Many states now permit the placement and removal of The Rubber Dam by dental auxiliaries. To determine the status of your state, and the extent of supervision required, contact your local dental society or state board of dentistry.

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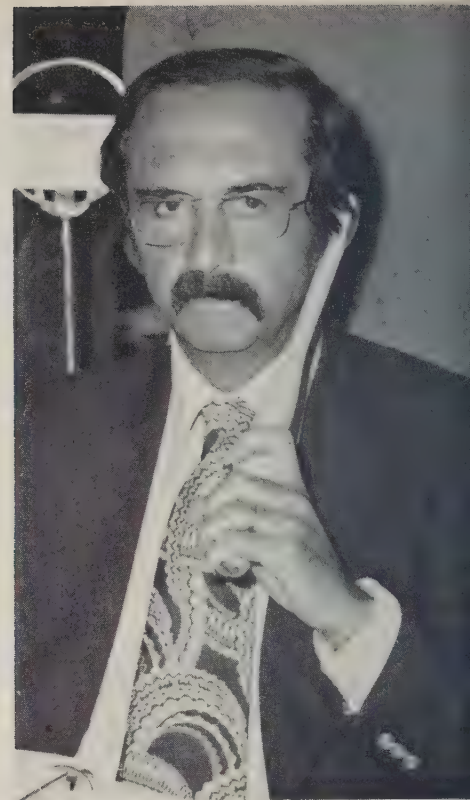
Please send, free of charge, an illustrated rubber dam application manual.

Dr. _____

Address _____

☐

Yes, I would like to send my assistants to a rubber dam training seminar in this area.



S. Silver

The communications gap

Everywhere it seems there is a communications problem. There is never a time whatever the discussion, that no mention is made of the lack of "communications".

Speculation suggests that perhaps the situation might be described in some other way. Can it be that in fact there is nothing really worth saying? Is it possible that the means of getting the message across is at fault? And surely there must sometimes be a vast disinterest in the audience of the subject under discussion.

Some of these factors must often be present and should be considered in any assessment of a given condition. Of chief concern here, of course, is whether the CDA has experienced any difficulty in its relationships with the dentists of Canada. The facts are brought out one way or another in the report from the Task Force. Yes, there are difficulties of understanding between the CDA and dentists; and yes, getting through to dentists has not been the easiest thing in the world to do.

It is of considerable relief to know that effective measures to correct the deficiencies of the past are well on the way to being recognized and implemented. The Task Force has been hard at work outlining new priorities and new mechanisms for presentation. These will be subjected to hard scrutiny by all interested parties and then to intense examination and modification where necessary at a special meeting of the Board of Governors. From all of this will come a document giving the CDA a new direction and a revivifying impetus.

It is fortunate that the CDA has at hand an instrument, recently refurbished after many years of honorable service,

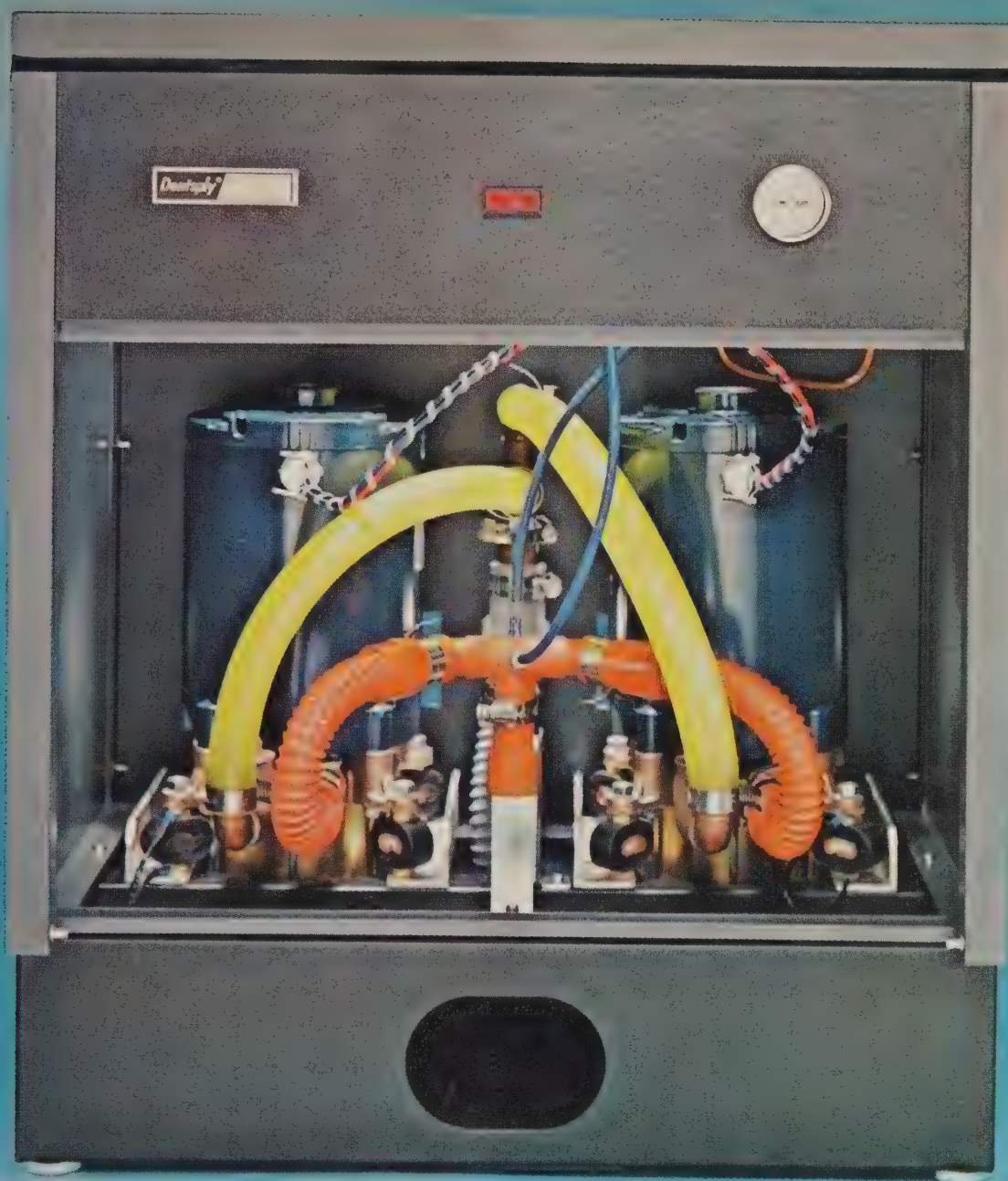
to announce the momentous changes and events which are soon to become a reality.

The Journal of the Canadian Dental Association, striking in format and freshly new in leadership has had only a short time to show what is in store in the way of establishing a more efficient kind of pipeline, a more stimulating link between dentistry and dental personnel. However the effect has already begun to be revealed in the air of movement and action in the brightly coloured sections, in the crisp layout and in the tight editing. What used to be the Governor's Letter is now a hot-off-the-press bulletin for all members; the type face is cleaner and easier to read, and the articles seem to hang together better than they used to.

It was said of Spencer Tracy that he was so great an actor because he seemed to make it too easy, that no one could really tell how he achieved the effects which were so moving. Something of the sort might be said of the Journal as it is now constituted. Without letting us know how it has become different, it is more exciting, more informative and more satisfying.

Let us not then be concerned in examining too closely how the wheels turn to make the Journal what it is. Let us simply congratulate those who are responsible for the change and assure them of our support. Let us also recognize and welcome the revolution in store for the CDA and indicate by our response to the challenge that organized dentistry in Canada is strong and confident of the future.

**S. Silver, D.D.S.
Member, Board of Governors**



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The Dentsply MVS Pump Module pictured above can be installed with any central evacuation system new or existing, wet or dry. Also available: A single motor and single pump module.



CONTINUING EDUCATION NOW MANDATORY IN ALBERTA

Continuing education is now mandatory for dentists in Alberta. New amendments to the Alberta Dental Association's bylaws governing licensing were recently approved by the provincial Cabinet.

To retain his licence, a dentist will have to acquire a minimum number of credits every five years by participating in a continuing education program approved by the Association's board of directors. Dentists who have practised for 40 years or more will be exempt from the educational requirements.

The Alberta Dental Association has followed with interest Minnesota's experience with mandatory continuing education. The State of Minnesota's new dental practice act became law on June 6, 1969. It too establishes a five year educational requirement for both dentists and dental hygienists as a condition of retaining the licence to practise. For a dentist the requirement calls for "not less than 20 hours" of continu-

ing education during the preceding five years of licensure.

The Minnesota State Board of Dentistry accepts such activities as attendance at lectures, study clubs, college postgraduate courses and scientific sessions at conventions, as well as research, graduate study, teaching or service as a clinician. Any dentist or hygienist failing to comply with the educational requirement is, at the discretion of the board, re-examined to determine his competency to continue licensure.

To implement the law, the Board of Dentistry asked the Minnesota Dental Association to appoint a committee to set up guidelines for establishing acceptable courses and the amount of credit to be given for these courses. The following guidelines were developed and formed the foundation of the program: (1) district society evening meetings — one hour; (2) all-day district meeting — three hours; (3) state meet-

ing—five hours; (4) national meeting—five hours; (5) formal education course—credited for duration of course.

For record-keeping purposes the American Dental Association offered help in the form of a Continuing Education Registry Pilot Project which brought the computer into action. Dentists attending the various meetings turn in a computer card to the sponsor of the particular meeting and the sponsor sends all the cards to the central registry in the packet provided. The packet contains a printed form on the face which provides space for necessary information such as the speaker, area of dentistry covered at the meeting, credit hours, etc.

After five years of experience, the program in Minnesota is proving highly successful. Enthusiasm and co-operation among dentists and hygienists is running high, and attendance at meetings and educational courses is far higher than ever before.

CDHA sets up national headquarters in Ottawa

The Canadian Dental Hygienists Association has taken the first step toward establishing a national headquarters in Ottawa. The headquarters will consist of a permanent mailing address and minimal secretarial services.

The decision to locate in Ottawa was based on recommendations made by a search committee appointed earlier in the year to investigate the establishment of a national headquarters.

The committee's first task was to find the best location for the CDHA's new base of operations. Sherita Clark,

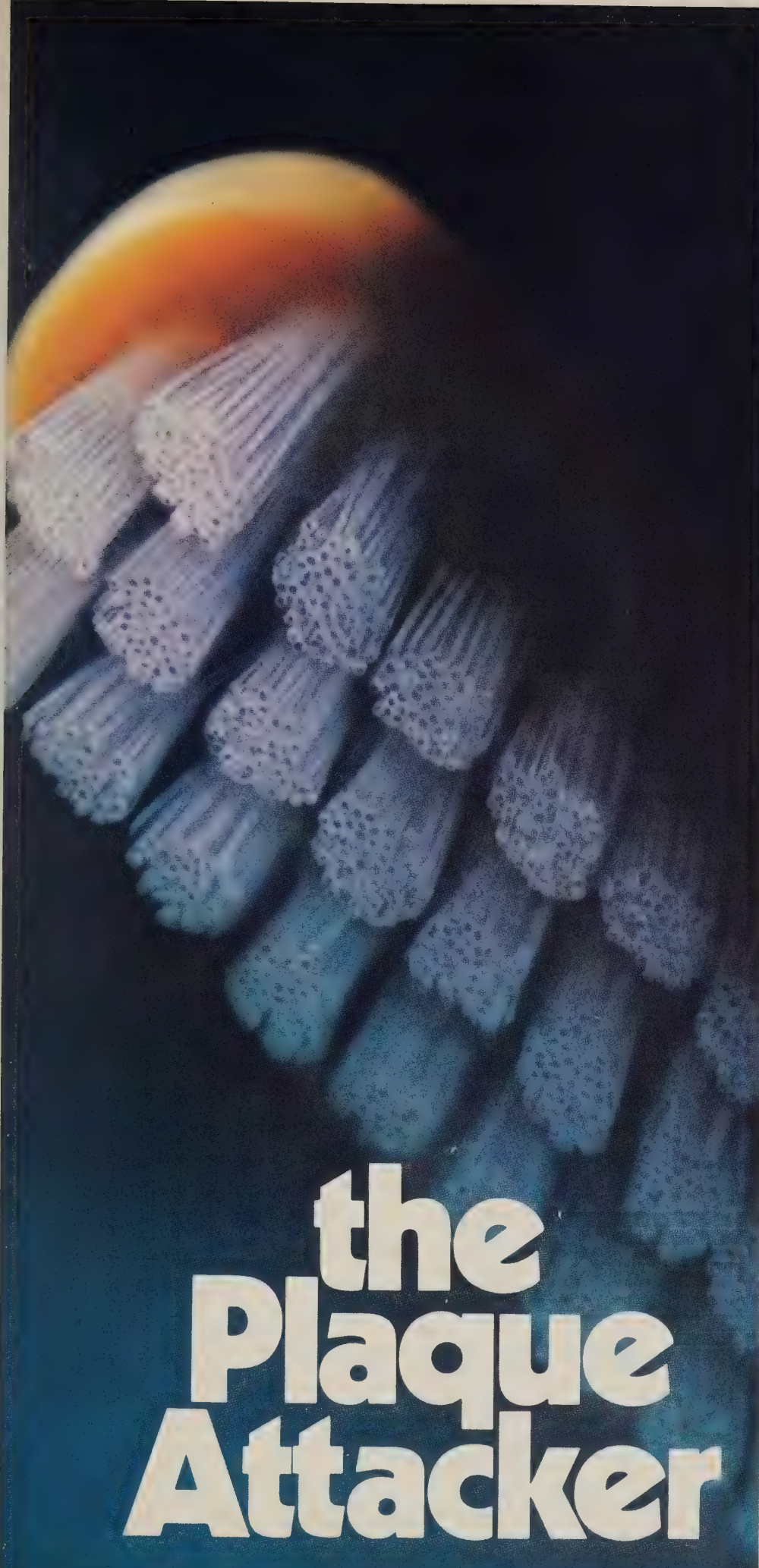
committee chairman and Sharon French, adviser, set up a series of meetings with officials from the Canadian Medical Association, the Canadian Nurses Association and Health and Welfare Canada. All groups agreed that there were significant advantages to being located in the nation's capital, including closer liaison with government and other professional associations in related health fields.

The CDHA's new mailing address is: P.O. Box 8252, Ottawa K1G 3H7.

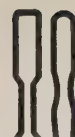
CDA appoints Metric representative

Ralph Barolet has been named the Association's representative on the Health and Welfare committee of the Metric Commission. Dr. Barolet is secretary of the School of Dental Medicine at Laval University.

A member of the CDA Committee on Standards for Dental Materials and Decives, Dr. Barolet has a special interest in the field of dental materials. He is an engineer as well as a dentist and his background makes him eminently qualified to serve on the Metric Commission.

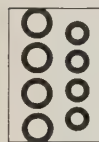


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More bristles for greater cleaning power

Softex combines over 2,200 bristles with a smaller brush head to provide improved cleaning power.

*Goldman, H. M., and Cohen, D. W.: Periodontal Therapy, ed. 4, St. Louis, The C. V. Mosby Company, 1968, pp. 319-320.

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STATUS OF EDUCATIONAL PROGRAMS

The following list of programs evaluated by the Canadian Dental Association's Council on Education shows the status of various programs in universities and colleges across Canada as of May, 1974. Graduate and postgraduate programs in CDA recognized specialties will be published next month.

Undergraduate dental programs

Name of university	Accreditation status awarded
Faculty of Dentistry University of British Columbia	Approval
Faculty of Dentistry University of Alberta	Approval
College of Dentistry University of Saskatchewan	Provisional approval
Faculty of Dentistry University of Manitoba	Approval
Faculty of Dentistry University of Western Ontario	Approval
Faculty of Dentistry University of Toronto	Approval
Faculty of Dentistry McGill University	Approval
Faculty of Dentistry Dalhousie University	Approval

Dental Hygiene Program (Dental therapist level 6B) Canadian Armed Forces Dental School, Base Borden	Approval
Program of Dental Hygiene Faculté de médecine dentaire Université de Montréal	Approval
School of Dental Hygiene Faculty of Dentistry Dalhousie University	Approval

Dental assisting programs

Name of college	Accreditation status awarded
Okanagan College, B.C.	Provisional approval
Northern Alberta Institute of Technology, Alberta	Approval
Southern Alberta Institute of Technology, Alberta	Approval
Kelsey Institute of Applied Arts and Technology, Sask.	Approval
Canadore College of Applied Arts and Technology, Ont.	Approval
Confederation College of Applied Arts and Technology, Ont.	Approval
Fanshawe College of Applied Arts and Technology, Ont.	Approval
George Brown College of Applied Arts and Technology, Ont.	Approval
Niagara College of Applied Arts and Technology, Ont.	Approval
St. Clair College of Applied Arts and Technology, Ont.	Approval
Canadian Armed Forces Dental School, Base Borden, Ont.	Approval
Nova Scotia Institute of Technology, N.S.	Approval
Holland College, P.E.I.	Approval

Undergraduate dental hygiene programs

Name of university	Accreditation status awarded
Program of Dental Hygiene Faculty of Dentistry University of British Columbia	Approval
School of Dental Hygiene Faculty of Dentistry University of Alberta	Approval
School of Dental Hygiene Faculty of Dentistry University of Manitoba	Approval
Division of Dental Hygiene Faculty of Dentistry University of Toronto	Approval

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contrast for corrections; has unsurpassed flexibility and tear strength. And, you'll find that you use less material and preparation time to get superb results. Try our Xantopren/Optosil Mini Kit. It will make a great impression . . . on you and your patients.

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DEATHS

Daniel, Herbert LaMert. 83. Dartmouth, N.S. Dalhousie University, 1914. 3-8-74. Survived by Mrs. Frances Jackson (daughter).

Deschênes, Gilbert Herve. 58. Montreal. University of Montreal, 1945. July 1974.

Goodman, Abraham Lincoln. 57. Red Deer, Alberta. University of Alberta, 1940. 24-8-74. Survived by Grace (wife) and Mrs. Marilyn McBain and Shirley (daughters).

Lavers, Beverly deWolfe. 76. Kingston, N.S. Dalhousie University, 1925. 12-8-74.

Wood, Arthur Dobson. 78. Toronto. Royal College of Dental Surgeons of Ontario, 1919. 31-7-74. Survived by Florence (wife); Dale and Donald (sons); and Margaret and Meribeth (daughters).

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on August 31, 1974:

Guaranteed Fund \$11.148;
Fixed Income Fund \$13.996;
Common Stock Fund \$23.799.

Total assets (market value) of the plan were \$15,679,940.98.

The following portfolio purchases and sales occurred during the preceding month: Bought, 11,980 units Classified Conventional Mortgage, \$400,000 IAC note, \$500,000 Niagara Finance Co. note. Sold, \$10,000 IAC note, \$500,000 Ford Motor Credit Co. note, \$400,000 City Corp. note.

For further information please write to CDA-sponsored Pension and Insurance Plans, 14 Madison Ave., Toronto, Ont.

New Saskatchewan department head

D. L. Singer of Saskatoon has been appointed head of the Department of Oral Biology at the University of Saskatchewan's College of Dentistry.

Dr. Singer joined the University staff in July 1973 as an assistant professor of

dentistry and lecturer in biochemistry.

A dental graduate of the University of Alberta, Dr. Singer also attended the University of Manitoba where he received a diploma in periodontics and a PhD in oral biology.

Dentist's tools?

The very next time that you're tempted to "save a buck" on mail order equipment, ask yourself how much you really save if the "bargain" fails to measure up to the daily grind. Can your long-distance discounter provide you with quick, economical repair services? Or, would you find it cheaper and faster to do the job yourself?

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Beats fixing it yourself... and may even save you money in the long run.



DENCO

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THE THREE D's:

**Yesterday's debt
Today's donation
Tomorrow's dividend**

**Dean, John W. Neilson, Manitoba
Vice-chairman, CFDE Board of Trustees**

This article is an attempt to convey information about The Canadian Fund for Dental Education not only to past, present and prospective benefactors but to any other interested or disinterested parties as well. Whether or not the attempt is successful must of course be left to the individual reader and to the future balance sheets of the Fund itself. In any event, these opening remarks set forth several elementary truths and facts of life under which the Fund has operated since its inception in 1963, and under which it will probably continue to operate in the immediate years ahead.

Aim of CFDE

The aim of The Canadian Fund for Dental Education is embodied in its title. To elaborate, the Fund seeks to improve the quality of dental education throughout Canada and, in following this avenue, it seeks, in the longer term, to improve the quality of dental care for all Canadians.

If it is to achieve these commendatory objectives, it must perform as best it can in two basic areas. It must raise dollars and it must dispense them. Furthermore, if this or any such funding body is to enjoy longevity, the first role must precede the second. While the actual effort involved in raising money is quite different from that involved in spending it, the two functions can in no way be dissociated from one another.

Should, for example, contributors to any purportedly good cause not receive periodic messages on how their contributions are used? If they don't, they are understandably less enthusiastic "the next time round" over funding what they can only regard as the unknown. The necessity for transmitting this type of message is particularly pertinent in the case of the Fund. If it is to remain a positive force in Canadian dentistry, there must continue to be an annual "next time round." It will be a necessity because the deserving and carefully screened requests for aid each year far exceed the oftentimes generous contributions. Regardless of what the cynics may say, requests generally do reflect genuine needs. Their undiminished urgency and magnitude during an inflationary period have made it impossible for the Fund, in its relatively short existence, to accumulate the reserves or the capital so frequently identified with private foundations.

Contributions total one million

Having said all this, it is almost obligatory to devote the succeeding paragraphs to an accounting of how the Fund has dispersed the moneys entrusted to its care. Until the end of 1973, donations of approximately \$1 million had been received since the Fund commenced its ongoing and essentially "soft sell" solicitations some ten years ago. This figure includes individual contributions, donations from the dental trades, and from national, provincial and local dental associations, as well as gifts honoring the memory of a deceased dentist or friend. It also includes contributions to the Capital Fund which was initiated in 1972/73. This total represents a remarkable display of altruism on the part of all who have seen fit to honor their profession, their businesses, or their associates in this very tangible fashion.

How funds are spent

A substantial portion of the Fund's resources has been devoted to assisting potential teachers/researchers. To date 137 annual fellowships to dentists as well as 8 awards to dental hygienists have been provided. Such grants amount to well over \$300,000. Every dental school in Canada has benefitted from this program because each has on its staff at least one teacher who has received support from the Canadian Fund for Dental Education.

Other examples of programs which have received substantial funding are: (a) unrestricted grants to Canadian dental schools (\$91,500), (b) assistance on the establishment of The Association of Canadian Faculties of Dentistry (\$23,000), (c) assistance to conferences on dental research (\$30,000), (d) assistance to student conferences and table clinics (\$31,000), (e) assistance to conferences on dental teaching (\$12,000), and (f) accreditation surveys of dental faculties (\$28,000). Smaller grants have been made to conferences and/or projects in the areas of preventive dentistry, standardization of dental materials and devices, dental auxiliary utilization and the delivery of dental health care.

Continued page 655

THE THREE D's

Lay public finds record impressive

The record is an impressive one and interestingly enough, that record sometimes seems to create an even more favorable reaction in the lay public, especially when they hear that all this was accomplished by a numerically small group of professionals and their associates.

Everyone who has helped to make this possible has reason to be proud of what the dollars have done. However, those who are most deeply immersed in the Fund's work occasionally have more ambivalent feelings. They too are proud of the record to date but they are coincidentally aware of how many other needs could be met if more of their colleagues would come forward with donations.

Donations are Fund's strength

The principal thrust of this article remains as stated at the outset — to convey information. Indirectly, perhaps, it is hoped that recipients of the information will be sufficiently satisfied with the Fund's stewardship to become more generous, continuing, or initial donors. Nevertheless, and in keeping with the Fund's philosophy and practice from its beginnings, no analysis will be made of the motivations of those who voluntarily support noble purposes with hard-earned cash. Experts say the reasons range from the old-fashioned sense of noblesse oblige to the more recently acquired talent of avoiding (but not evading) income taxes. Perhaps somewhere in the middle lies the Fund's greatest strength which is really the realization by many of its past contributors that dental education has provided them with a good life as well as a good living.

This realization is converted into action by a donation to The Canadian Fund for Dental Education. That action befits individuals of conscience, civility, optimism, and intellect, for when we support dental education, we demonstrate a faith in the future and we also redeem a debt from the past.

Our Mistake

The September issue of the Journal carried a news story regarding Lorne E. MacLachlan's generous contribution to the CFDE Capital Fund. We apologize to Dr. MacLachlan for misspelling his name throughout the story.

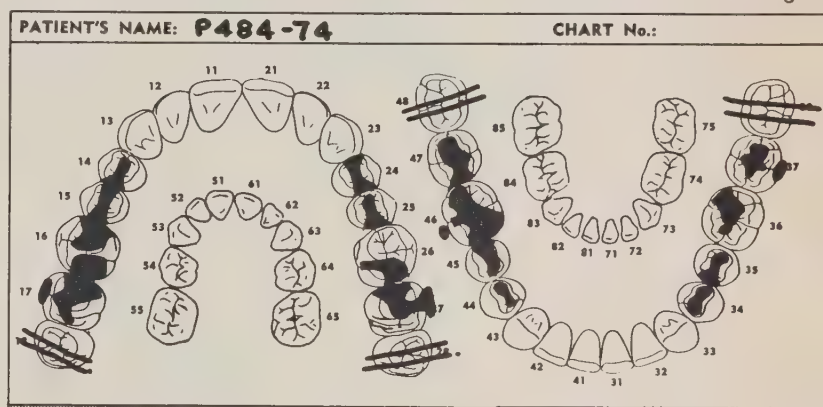
RCMP seeks help identifying body

The odontogram shown here is that of an unidentified female body found May 26, 1974, approximately eight and a half miles west of the west gate of Jasper National Park, B.C.

The deceased was about five feet five inches in height, of average weight, and had auburn hair with grey streaks. Her age is estimated at 35 to 40 years.

Anyone with information which could help in the identification of this woman should contact: Corporal Wes Knopp, Royal Canadian Mounted Police, 1323 5th Avenue, Prince George, B.C.

All restorations are amalgam



Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 août, 1974:

Fonds avec garantie \$11.148;

Fonds à revenu fixe \$13.996;

Fonds d'actions ordinaires
\$23.799.

L'avoir total (valeur marchande) du régime se montait à \$15,679,940.98.

Au cours du mois précédent, les transactions ont été les suivantes: achat, 11,980 units Classified Conventional Mortgage, \$400,000 IAC note, \$500,000 Niagara Finance Co. note. Vente, \$10,000 IAC note, \$500,000 Ford Motor Credit Co. note, \$400,000 City Corp. note.

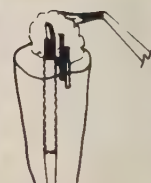
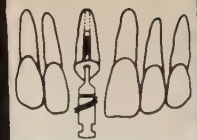
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- Assessing public knowledge
- Motivating change
- Practical programs

How much does the public know about preventive dental health?

Joel B. Epstein
Dane M. Moore
C.W.B. McPhail, DDS, MSD, MScD
Saskatoon

In September the Saskatchewan Government launched a dental health care program for children in the province. The program, designed to provide diagnostic, restorative, surgical, periodontic, endodontic and emergency services, will also offer preventive and dental health education services.

In anticipation of the introduction of this new plan, we felt that an assessment of the existing nature and level of public knowledge of dental diseases and their prevention and control would provide useful guidelines in the development of the health education and preventive aspects of the program. As Kegeles has pointed out, before people take preventive action, "they must: (a) be aware that they are susceptible to the disease in question; (b) believe that the disease would affect them seriously should they contact it; (c) be aware of the preventive measures which are available; and (d) believe that the benefits of the preventive measures outweigh the disadvantages."

To assess public knowledge in the field of dental health, we conducted a study on a cross-section of Saskatchewan residents during the summer of 1973. The study was a student research project supported in part by a grant from the Medical Research Council.

Information was obtained through personal interviews which were recorded on questionnaires pre-tested for validity and consistency.

The sample group of 150 participants, including children and adults, was selected in co-operation with the Saskatoon

Separate and Public School Boards. These School Boards supplied information relating to a socio-economic classification of schools and surrounding areas and the sample was weighted according to the proportion of students enrolled in public and separate, elementary and high schools, with respect to the classification of each area.

Prior to the interview an introductory letter was mailed out. Each respondent was classified as high, medium or low, according to the guidelines set forth in "A Socio-economic Index of Canada".³ A computer analysis was conducted to determine the results of the study.

Views on dental decay

Analysis of the completed questionnaires yielded some interesting data on the level of the public's knowledge and concern in the area of dental health care. Here are just a few of the questions and responses gleaned from this study.

What is dental plaque?	% of sample
(a) a layer of food on your teeth	10
(b) a layer of bacteria and their products	29
(c) a layer of dried saliva	8
(d) don't know	53

Since a number of the respondents who selected choice (b) admitted it was a guess, it can be concluded that approx-

imately three-quarters of the population does not know what the primary cause of the major dental diseases is.

Can most dental decay be prevented?	% of sample
Yes	91
No	5
Don't know	4

Although people seem generally confused about the need for and benefits of toothpaste, there appears to be some agreement on the greater benefits of fluoridated toothpastes, as opposed to non-fluoridated, in the prevention of caries.

The results show that over one-half of the people interviewed feel that dental floss is an aid in preventing cavities. Many people also stated that they felt tooth picks would do "more harm than good".

Comments from respondents indicated that much confusion exists regarding the benefits of mouthwashes, even though over half of those surveyed felt that mouthwashes would be an aid in preventing cavities. Many viewed rinsing the mouth with water as "better than nothing" and beneficial in removing food particles between the teeth.

Disease of the Gums

In any other region of the body, bleeding is generally an indication that something is wrong. Yet, 41% of our sample think that bleeding in the oral cavity is associated with toothbrushing and is not a symptom of disease.

Can gum disease lead to loss of the bone that surrounds the tooth?	% of sample
Yes	79
No	6
Don't know	15

Can gum disease be prevented?	% of sample
Yes	93
No	1
Don't know	6

Is gum disease rare in persons under 30 years of age?	% of sample
Yes	33
No	52
Don't know	15

Although more than half the respondents thought that gum disease was not rare in persons under 30, they were surprised to learn of the actual incidence of disease in this and other age groups. In response to questions regarding the prevention of gum disease, 89% of the sample felt that the toothbrush was a preventive aid and 69% thought rinsing the mouth with water would be beneficial. Mouthwash as an aid in the prevention of gum disease got the vote of 67% of the sample, fluoridated toothpaste got 51% and dental floss followed close with 48%.

When asked whether teeth and gums were self-cleaning in their normal condition, 74% said they were not, 19% said they were and the rest didn't know.

Another question asked concerned the use of x-rays. Most of the respondents felt that the dentist should know when x-rays should be taken and commented that, on a routine basis, x-rays were not necessary. Fewer people supported the use of x-rays on children than did those who supported their use on adults.

Primary and permanent teeth

Should primary teeth with decay be filled though they will be replaced by permanent teeth? When the respondent attempted to qualify his/her answer to this question we suggested that the cavity would be requiring restoration about a year before normal exfoliation and, with this qualification, our results showed that 90% of those interviewed felt that the teeth should be restored.

In the event of premature removal of a primary tooth: 61% felt that a device should be made to maintain the space that tooth occupied; 21% decided not to worry because the permanent tooth would still come in normally, and 18% didn't know what course of action should be taken.

Is the loss of permanent teeth part of the normal aging process?	% of sample
Yes	27
No	66
Don't know	7

What is the major cause of tooth loss in an adult over 35 years of age?	%
(a) cavities	24
(b) gum disease	14
(c) cavities and gum disease	54
(d) don't know	8

Since very few people realize the importance of gum disease, those who were unsure chose the combination of cavities and gum disease.

Oral Hygiene

When asked when brushing of children's teeth should begin, 53% said "as soon as the child can handle the toothbrush himself." However, few people realize that a child is unable to handle a toothbrush properly by himself until the age of nine or 10 which accounts for the fairly high response in this category. Another 43% felt that brushing should be started by the parent as soon as the child has teeth, while 2% said just before the child starts school, and 2% didn't know.

What type of toothbrush is best for maintaining oral hygiene?	% of sample
Hard	55
Soft	31
Don't know	14

In conversation, many respondents wanted to say medium toothbrushes were best. Most who chose hard bristle brushes were of the opinion that the harder they scrubbed the better they would clean their teeth.

Teeth should be cleaned in the direction they grow (up and down)	% of sample
Yes	96
No	3
Don't know	1

One person in our study who had been a patient at the University's dental clinic suggested that the proper method to use in toothbrushing was the "sulcular" method. The fact that 96% felt the "up and down" method should be used indicates the success of public health, school, and mass media education as well as instruction from dental offices.

It is interesting to note that 40% of the respondents did not know what dental floss was and, of the 60% who knew what it was, many did not know how to use it.

On a question regarding the effectiveness of fluorides, a number of the respondents stated that fluoridation was supposed to prevent dental decay and thought that there was still controversy regarding its effects.

Comparison of responses

The three tables included in this article reveal the comparison of responses to various questions according to age group, socio-economic classification and level of education.

In Table 1 we note that relatively few people in the under 20 age group felt mouthwashes were beneficial, while those in the 20 to 40 age group had mixed feelings and those from 40 to 60 generally saw mouthwashes as beneficial. Nearly 80% in the 30 to 60 year age group felt mouthwashes would prevent gum disease whereas less than 50% of the under 20 group felt it would be beneficial.

In the under 20 age group 59% were unfamiliar with the use of dental floss as compared to 41% of the total number of respondents.

An assessment of the comments relating to the question of when teeth and gums are clean demonstrated that respondents in the 20 to 40 year age group stated the correct answer most often. It is worth noting that 53% of the respondents under 20 admitted not knowing when their teeth and gums were clean.

One hundred per cent of respondents in the high socio-economic classification were of the opinion that gum disease could be prevented, but only 87% of those in the low socio-economic classification felt the same way.

Seventy per cent of those surveyed in the high socio-economic classification felt that dental floss could be used to prevent gum disease, whereas only about 40% of those in the medium or low classification felt dental floss would be an acceptable aid.

Also in the high socio-economic classification, 100% felt that primary teeth with decay should be filled, but only 84% of those in the lower classification agreed with this precept.

Response by age to the question can mouthwash be used to prevent dental decay.
(Percentages in brackets.)

Table 1

Age	Yes	No	Don't know
Under 20	5 (29)	12 (71)	0 (0)
20-30	6 (43)	7 (50)	1 (7)
30-40	26 (57)	20 (44)	0 (0)
40-50	37 (77)	10 (21)	1 (2)
50-60	7 (64)	3 (27)	1 (9)

Significance — 0.0078

Response to the question of what type of toothbrush is best for maintaining oral hygiene by education level of respondent. (Percentage in brackets.)

Table 2

Education level	Hard	Soft	Don't know
Public School	13 (54)	4 (17)	7 (29)
High School	51 (61)	22 (27)	10 (12)
Post Secondary	9 (50)	8 (44)	1 (6)
Tech. Institute	9 (36)	13 (52)	3 (12)

Significance — 0.0277

In the comparison of responses according to educational levels, more of those with postsecondary education knew what plaque was. In addition those with higher levels of education generally felt that dental floss was beneficial in preventing gum disease, while fewer of their counterparts with less education saw flossing as an aid in this particular area.

In Table 2 we note that respondents from all educational levels favored a hard toothbrush for maintaining oral hygiene. However, a breakdown of the figures shows that a soft toothbrush was the choice of more respondents with a higher level of education than those in the lower category.

More of the respondents with higher education also recognized the benefits of fluorides in preventing decay.

Defining present attitudes

Before planning effective dental health educational programs, a knowledge of present attitudes, habits and knowledge must be defined. The type of questionnaire used in this study could be valuable in evaluating the effectiveness of

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educational presentations and in determining regional differences of knowledge in preventive dentistry.

This survey, designed to obtain information on the public's dental health knowledge, indicates the need for public health education and delineation of specific target populations.

It is evident that lack of knowledge of caries and periodontal disease and their prevention has resulted in little action of a preventive nature. Generally the respondents understood more about caries and its prevention than they did about periodontal disease and its prevention. Hopefully, this study will provide stimulus, as well as some guidelines, for further research in the area of periodontal disease.

The public seems to be confused about the importance of diet in relation to the major dental diseases. During discussions respondents frequently mentioned they felt diet was the major factor in the etiology and prevention of disease.

Respondents also felt there is still controversy over the effectiveness of fluorides among the so-called authorities. In addition, people were unsure about the benefits of toothpastes, whether fluoridated or non-fluoridated, and about the benefits of mouthwashes.

There appears to be a relationship between the age of respondents and their dental health knowledge. Those in the 20 to 40 year age group knew more about prevention than did those in the under 20 or the 40 to 60 year group. A probable explanation for this finding is that, at present, most information in this area originates from the dental office, personal experience and the experience of friends. This indicates, at least in the case of the younger age groups, that little information has been available from the school system or from the mass media. Older people are more inclined to be out of touch with the advances in modern dentistry.

Results of the study show that females score higher on correct information than do males. Mothers often accompany children on their dental visits and are usually more instrumental in decisions regarding health knowledge, attitudes and habits of their dependents. The study also showed that those with dependents had better scores.

Many previous studies^{1,4-7} indicated that a direct relation exists between socio-economic classification and knowledge. Similarly, in our study, it was found that those of higher socio-economic classification knew more about prevention than those of lower socio-economic classification.

Also, it has been postulated that a positive relationship exists between educational levels and knowledge of prevention of dental disease. Our study substantiated this statement. Results showed people with higher education levels knew more and responded with fewer "don't knows".

People who described their dental health as good appeared to know more than other groups. However, the manner in which the individual described his state of dental health did not appear to be grounded in accurate information. Those who thought they had average dental health felt they should do more to maintain their health, whereas those who described their dental health as bad felt they were doing sufficient.

Those who felt that what they did to maintain their oral health was sufficient knew more about prevention than the other groups. Those respondents who didn't know if they did sufficient knew the least of any groups.

Socio-economic classifications and educational levels appeared to have the largest effect of the variables discussed on the level of preventive dental health knowledge. Age was also a strong factor. Although some groups showed greater levels of knowledge than others, all groups exhibited a need for education.

High degree of interest

Generally, all people interviewed were very interested and responsive and, in view of this, we feel that any material made available to the public would be accepted readily.

Educational efforts to date have been effective as indicated by the almost universal response to the question that brushing three times a day, up and down, was correct. In the past, information has been made available through the school system, public health services, dental offices and the mass media. We must increase our educational campaigns, utilizing all these avenues to educate each group and every member of the family.

Educational needs must be determined, goals must be set and the proper motivational stimulus must be established. But the first step in providing people with correct dental facts is to determine their current level of knowledge in the area of dental health care. Studies such as the one we have described here can do much in accomplishing this objective.

"Public education and community health services are essential complements to the efforts of private practitioners if preventive dentistry is to achieve its maximum potential. The dental profession must further demonstrate its commitment to the needs of the community, as well as of the individual patient, if it is to fulfill its leadership role."²

Dr. McPhail is Dean of the College of Dentistry, University of Saskatchewan. His present address is: College of Dentistry, University of Saskatchewan, Saskatoon, S7N 0W0. Messrs. Epstein and Moore are dental students.

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Supplied: Available in 57ml (2 oz.) plastic bottles.



Student-operated preventive care demonstration

Jeffrey Rubenstein
Class of 1976
University of Toronto

As the result of a three-month summer project in preventive oral care, I believe the future of dentistry lies in the field of prevention. Students should be urged to work with their respective faculties and to create programs to operate during both the academic and summer months.

This summer's program

The program was operated during June, July and August in the City of Toronto. Its objectives were to provide an educational program in oral hygiene, general nutrition and to demonstrate several basic preventive dental techniques. It was also designed to stimulate greater interest and to motivate the public in the preventive aspect of oral health.

The program proved very successful and rewarding both for the public (approximately 3,000 individuals) and myself. Various teaching aids such as large models, giant brushes and teeth, posters and other graphics were utilized.

After each demonstration, an oral hygiene kit containing a brush, dental floss, dentifrice, disclosing tablets and a pamphlet were provided. Verification of their proper use was obtained by having the participants show me how they were going to be used in the home.

Analysis of Procedures

As a result of this project, it would appear there are several basic rules to be followed in a public education program. The first is to be direct and maintain a simple vocabulary.

Too many are still confused as to what plaque, calculus and periodontal disease are. Astonishingly enough, even what a cavity is! These concepts can all be understood more readily if they are explained in simple terms using graphics, rules, poems or analogies.

Personally, I found the words "dirt" instead of plaque, "gum disease" instead of periodontitis, "bad breath" instead of halitosis and "hole" instead of cavity, very helpful. For example, too many people think that a cavity is "a black thing in a tooth."

Effective techniques

Amusing poems or jingles are extremely effective with children. On demonstrating how to brush the teeth and stimulate the gingiva properly, I used the following poem on those 4 to 9 years of age:

*Brush up like a rocket (lower arch)
Then down like the rain (upper arch)
And back and forth
Like a choo-choo train (occlusal surface)*

The accompanying demonstration showed the children that the top of the brush is for the top (occlusal surface) of the teeth and that the sides of the brush are for the sides (buccal and lingual) of the teeth.

Diet counselling

The idea behind diet counselling is to change the snacking habit from cariogenic to non-cariogenic substitutes. Instructing people to simply stop eating carbohydrate food is a waste of time. The average person is confused about the cariogenicity of many snacks.

It appears to be more successful to first state that fresh fruit and vegetables are a good source of nutrients and also non-cariogenic. A simple rule is to remind people which are and which are not cariogenic, as follows:

"Generally snacks that begin with the letter 'c' such as cookies, cakes, candies and chocolates cause *cavities*. Snacks which begin with the letter 'p' such as potato chips, peanuts, pretzels, popcorn and pizza are all *perfect* for your teeth."

This rule does not apply 100 per cent but it will put most people on the right track.

Certain areas show a consistent lack of public knowledge, such as: staining of teeth by various foods, drinks or tobacco; availability of dental floss and disclosing tablets; the texture of toothbrush bristles; efficiency of dentures; and why a six-month visit to the dentist is important.

From this total summer experience, it was obvious the public is definitely interested in their oral health. Personally, I found that motivation is not difficult to establish and that the rewards of better oral hygiene could be made most gratifying to participants in an educational program.

Acknowledgement is made to the following who assisted in the creation of this project: M. Truvert, DDS., D. Paed., University of Toronto; K. Pownall, DDS, Royal College of Dental Surgeons of Ontario; H. Kershen, DDS and J. Laverdure, Colgate-Palmolive Limited; J.E. Abra, DDS and Pat Lundie, Canadian Dental Association.

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(MC-277)



HOW TO GAIN COMMUNITY FLUORIDATION

Lloyd Bowen
CDA Fluoridation Officer

Many an advocate of fluoridation, convinced of its effectiveness as a tooth decay preventive, must feel concerned if it is not in effect in his locality. Can he or should he do something about it? The answer is *yes* but the questions are *what? when? and how?*

Strange as it may seem, the success or failure of a fluoridation campaign often depends more on the level of activities of the opposition than on those of the proponents. If fluoridation had been voted down previously in the locality, sufficient time should be allowed for emotions to cool. If this is the first time the question is to come before the community or if it is after a cooling-off period, it is wise to make sure that there has been an educational program conducted for a long time and that most people are receptive to the idea that fluoridation is effective, safe and desirable.

As a check list for use by persons interested in obtaining community fluoridation, the following from the CDA guidelines on presenting fluoridation to the community is offered:

1. Determine present fluoride level.
2. Initial approach: make sure that key persons in the community are well informed on fluoridation; determine if a plebiscite is likely or perhaps necessary.
3. Convince the authorities: when no plebiscite is required or is likely to be held, it is appropriate that a request for fluoridation be made to the municipal authorities by the medical officer of health. However, such a request may be made by any physician, dentist or other leading citizen or, preferably, by a delegation. In any case, those concerned should be provided with the latest factual information on the subject.
4. When a vote appears necessary: an information program should be developed early to prepare people for the acceptance of fluoridation.
5. Set up a citizens' committee: the composition of the local committee should not be confined to medical doctors, dentists and interested leaders of lay groups. It should, if possible, include a pharmacist, a lawyer and a nutritionist. The committee could well have representatives of business and labor, service clubs, and women's organizations. It might be good to include a nurse, teacher and dental hygienist.
6. Publicity: it is most important to have the goodwill and understanding of local press, radio and television.

7. Information campaign: this should be undertaken to assure the public about the benefits and safety of fluoridation.
8. Fluoridation literature and other help: provincial authorities may be requested to provide up-to-date, factual literature on fluoridation. The Canadian Dental Association has literature and additional assistance (outlined at the conclusion of this article). Organizations such as the Health League of Canada and the Ligue d'hygiène dentaire du Québec offer additional assistance.

How support may be lost

Many a plebiscite has been lost to fluoridation in Canada because a vote was brought on before people were well informed about the measure. Sometimes a naive though well-meaning proponent has fallen into a trap this way. The "pros" have to build their case, step by step, to develop confidence in fluoridation and a desire for it. They should recognize that some people are confused and frightened and have the impression that the professions are divided right down the middle about it. (This impression is, of course, erroneous. There is only a small fringe of such professionals who, for various reasons, do not agree with the overwhelming evidence and the judgment of their confrères.)

Local backing is best

To win support for fluoridation it has been found wise to emphasize the backing of persons well-known and trusted in the locality. It is particularly important that physicians and dentists make known their endorsement. Much can be accomplished by these doctors and their assistants if they will first inform themselves about fluoridation and then assure their patients about it.

General comments

CDA suggest you: start early and organize well, spread the facts, keep discussion dignified, emphasize the positive, win the help of young people — especially those with families.

These points are taken from the complete Guideline for Presenting Fluoridation to the Community, available from the Canadian Dental Association. Fluoridation Information Kits, statistics and other special help are also available from: Bureau of Public Information, Canadian Dental Association, 234 St. George St, Toronto M5R 2P2.

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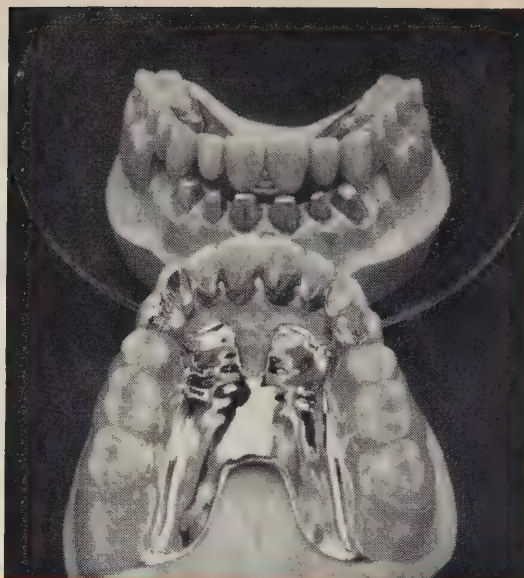
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Historical development

ODQ'S PRESENT MOTIVATIONAL CAMPAIGN

Claude Chicoine, DDS,
Montreal

Outlined here, is the historical development behind the Order of Quebec Dentists' present public education and information campaign. It outlines the Order's analysis of past campaigns and the bases on which it hopes to achieve more success with a change of tactics and philosophy.

Why changes were required

During the 1972-73 season, 52 fifteen-minute television programs were broadcast, at the rate of one per week. These broadcasts aimed at informing the public about preventive care, the technical aspects of different kinds of dental work, the importance of periodical examinations, dental x-rays and so forth.

In connection with this activity, there was an open-line probe. It established two things: first, the adult public repeats not what was actually said but what it wants to hear, willingly falsifying what was communicated in the television messages. Secondly, it is not interested in technical aspects — the monetary aspect is much more important. It considers the effort expended to save a tooth of little importance. What it wants to know primarily is how much will it cost. The public establishes no relationship between the fee asked and the work executed.

How campaign changed

As a result of this experience, the Order of Quebec Dentists appointed Dr. Claude Chicoine as chairman of a Committee on Public Relations, now known as the Committee on Communications. Dr. Chicoine engaged the services of the publicity agency Allard/LeSiège and, together, they developed a very different communications program. They worked with the idea that if adults do not understand, children might better assimilate the proffered advice. This campaign aimed at awakening children's curiosity rather than giving them a ready-made response. The campaign forces children to ask questions which they, themselves, must attempt to answer.

As an example of the change in tactics, a radio commercial, during the last Christmas season, had Pierrot ask Santa Claus for a toothbrush. This was the first time that a child had been motivated to ask for such an object along with the traditional firetruck.

Using Monsieur Bonjour

With the principle established that preventive care should begin at an early age, an unrivalled project was devised

which engaged the services of Luiz Saraiva, the chairman of the Théâtre d'Art du Québec.

Luiz Saraiva (Monsieur Bonjour) annually meets more than 100,000 students aged 5 to 17 attending sub-primary to secondary schools.

Monsieur Bonjour created a puppet called Adam Labrosse whose moto is: "Cavities are mean, so keep your teeth clean." At the end of a skit during which Adam talks about preventive care to students, teachers distribute booklets explaining the rules of a drawing-book contest where the children participate in creating the text.

Every child's drawing is sent to the Order of Quebec Dentists twice a year, in June and December. Four prizes are awarded — two at the elementary level and two at the secondary level. For the contest ending June 1974, the Order received 3,400 drawings.

This project is unique because, on the one hand, it permits the involvement of young people in preventive care. The involvement of the press, on the other hand, permits the Order to increase free publicity for the campaign.

In addition to these school activities, a television commercial is aired free-of-charge as a public service. This commercial stars Monsieur Bonjour and Adam Labrosse.

As one can see, the theme of the campaign is publicized in many different ways:

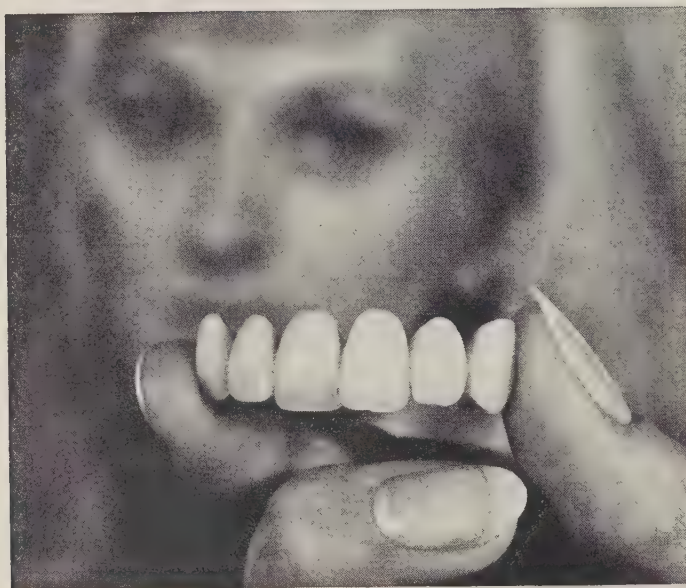
- 1) School activities
 - a) Adam Labrosse
 - b) drawing-book contest
- 2) televised message
- 3) participation in different radio and television shows
- 4) stickers
- 5) subway billboards (Montreal), outside billboards, and bus posters
- 6) song recording

Give-away record

Adam Labrosse has recently made a 45rpm record in French of "Cavities are mean so keep your teeth clean." This is a first. The Order is unaware that any other public service organization, recognized as such, has utilized a recording as a tool of communication and motivation. Furthermore, the producers of the record, RCA Victor and Omnicom®, have made a special offer to all dentists in Quebec. The record is made available at the special price of 79 cents per unit, with a required minimum order of 50 units

Continued on page 672

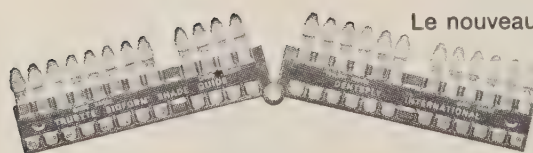
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L'ÉVOLUTION DE LA CAMPAGNE ACTUELLE DE MOTIVATION AMORCÉE PAR L'ODQ

**Claude Chicoine, DDS
Montreal**

On présente ci-dessous un rapport sur l'évolution de la campagne d'éducation publique dans le domaine de la santé dentaire amorcée par l'Ordre des Dentistes du Québec. On analyse l'efficacité des campagnes lancées dans le passé, et on présente les bases sur lesquelles on espère remporter plus de succès après avoir changé de la tactique et de la philosophie.

Pour quelles raisons a-t-on senti le besoin de changements?

Durant la saison 72-73, à raison d'une fois par semaine, on a réalisé 52 émissions de télévision d'une durée de 15 mi-

utes chacune. Ces émissions avaient pour but de renseigner le public sur la prévention, sur l'aspect technique des différents travaux dentaires, sur l'importance des examens périodiques et des radiographies.

Un sondage entrepris au moyen de ligne ouverte a permis de constater deux choses: premièrement, le public adulte répète non pas ce qui a été dit, mais ce qu'il aurait aimé entendre et partant, fausse selon son bon vouloir, les propos énoncés à la télévision. Deuxièmement, l'aspect technique ne le préoccupe pas, l'aspect monétaire est plus important. Peu importe l'effort que l'on déploie pour conserver une dent, combien cela coûte-t-il, voilà ce qui est primordial. Le public ne fait aucune relation entre les honoraires demandés et les travaux exécutés.

La suite à la page 672

Le docteur Claude Chicoine (à la gauche) en compagnie des agents d'Allard/LeSiège et de l'équipe de production du message "Une dent propre ne carie pas."



La suite de la page 671

Comment a-t-on changé la campagne?

A partir de cette expérience, l'Ordre des Dentistes du Québec a confié au docteur Chicoine la présidence du Comité des Relations publiques, connu aujourd'hui sous le nom de Comité des Communications. Ce dernier a retenu les services de l'agence de publicité Allard/LeSiège et, ensemble, ils ont conçu un programme de communications différent de ce qui a été fait auparavant, avec l'idée que si les adultes ne comprennent pas, les enfants, eux, pourraient mieux assimiler les conseils prodigués. Il s'agit d'éveiller leur curiosité et non de leur donner une réponse toute faite. Il faut qu'ils se posent des questions et qu'ils tentent de les résoudre.

Comme exemple de ce changement de tactique notons l'occasion de la période de Noël quand il y eut un message radiophonique où Pierrot demandait une brosse à dent au Père Noël. C'est la première fois qu'un enfant demandait un tel objet en même temps qu'un camion.

Monsieur Bonjour

Ensuite, en partant du principe que la prévention dentaire doit débiter à bas âge, un projet hors pair a été conçu en retenant les services de Luiz Saraiva, président du Théâtre d'Art du Québec.

Luiz Saraiva, (Monsieur Bonjour), rejoint annuellement plus de 100,000 étudiants de 5 à 17 ans, de la maternelle au secondaire V.

Monsieur Bonjour a créé une marionnette qui s'appelle Adam Labrosse et dont le moto est: "Une dent propre ne carie pas." Au cours de sa représentation, Adam Labrosse apparaît sur scène et parle de la prévention. A la fin de son exposé, les professeurs se voient remettre un livre expliquant un concours de dessin (texte auquel les élèves participent).

Chaque dessin d'enfant est envoyé à l'Ordre des Dentistes du Québec qui, deux fois l'an, en juin et décembre, remet quatre prix, c'est à dire, deux à l'élémentaire et deux au secondaire. Pour le concours se terminant en juin 74, l'Ordre des Dentistes a reçu 3,400 dessins.

Ce projet est unique car il permet d'intéresser directement, d'une part, les jeunes à la prévention dentaire et, d'autre part, la presse écrite et parlée au concours, ce qui dans un sens permet l'alimentation du circuit de publicité non-payée.

A l'action école s'ajoute un commercial télévisé et qui est diffusé gratuitement à titre de service public. Ce commercial met en vedette Adam Labrosse et Monsieur Bonjour.

Comme on le voit, le thème de la campagne est propagé de diverses façons:

- 1) action école
 - a) Adam Labrosse
 - b) Concours dessin-texte
- 2) message télévisé
- 3) participation à différentes émissions de radio et télévision
- 4) décalcomanie
- 5) panneaux de métro (Montréal), panneaux extérieurs et affiches d'autobus
- 6) création et endisquement d'une chansonnette

Le disque

Adam Labrosse vient d'enregistrer "Une dent propre ne carie pas" sur 45 tours. Il s'agit là d'une primeur. Il est très rare qu'un organisme reconnu comme étant "service public" utilise le disque comme outil de communication, motivation. Après avoir fait entendre la chansonnette à plusieurs groupes d'enfants, on a réalisé qu'à chaque fois, la majorité d'entre eux allait immédiatement se brosser les dents. D'ailleurs, toujours dans le but de motiver tous et chacun, les producteurs du disque, la maison RCA Victor et Omnicom®, sont en mesure d'offrir ce disque à 79c l'unité. Toutefois, pour des raisons d'ordre technique, on accepte seulement les commandes minimum de 50 unités (Total: \$39.50, frais d'expédition en sus). Faites parvenir votre demande à Omnicom®, département S/C, au soin de:

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L'ODQ souhaite que tous les dentistes du Québec se procurent une quantité de disques afin de les remettre gratuitement à leur clientèle — du moins aux enfants. De plus, on n'exclut pas la possibilité de traduire la chanson en anglais de sorte que tous les dentistes à travers le Canada participent à la campagne de motivation.

En regardant de près l'évolution de la campagne amorcée par l'ODQ, on s'aperçoit que chaque moyen utilisé, que ce soit la radio, la télévision, les imprimés ou autre (voir Journal Dentaire, Association Dentaire Canadienne, Juin 1974, Vol. 40, No. 6, Page 125) porte surtout sur la motivation. Aucun renseignement ne peut être compris et accepté s'il n'est d'abord et avant tout précédé d'une étape préliminaire de *MOTIVATION*.

ODQ's present motivational campaign

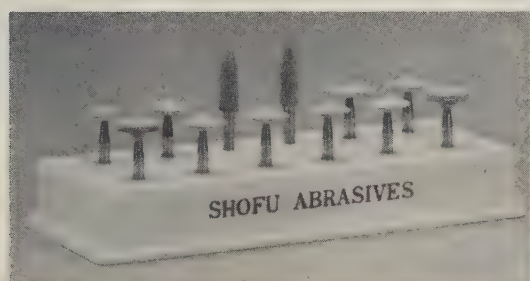
Continued from page 669

at a total cost of \$39.50. At this price, a dentist can well afford to invest in this motivational program, at least where children are concerned. In fact, this recording has proven to be a tool without equal. After various test groups of children listened to the song, it was noted that the majority went immediately afterwards to brush their teeth!

Furthermore, the ODQ does not exclude the possibility of recording an English version, so that dentists throughout Canada can participate in this campaign.

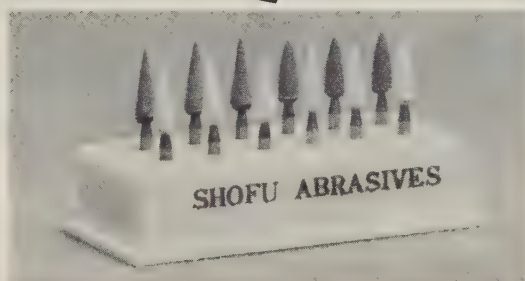
Looking very closely at the evolution of the campaign initiated by the ODQ, one is struck by the fact that every means utilized, be it television, or radio, stickers or other (see this July's issue of the Journal of the Canadian Dental Association), works primarily with the concept of motivation. No piece of information, insists the ODQ, can be readily understood and accepted if it is not above all preceded by a preliminary stage directed at *MOTIVATION*.

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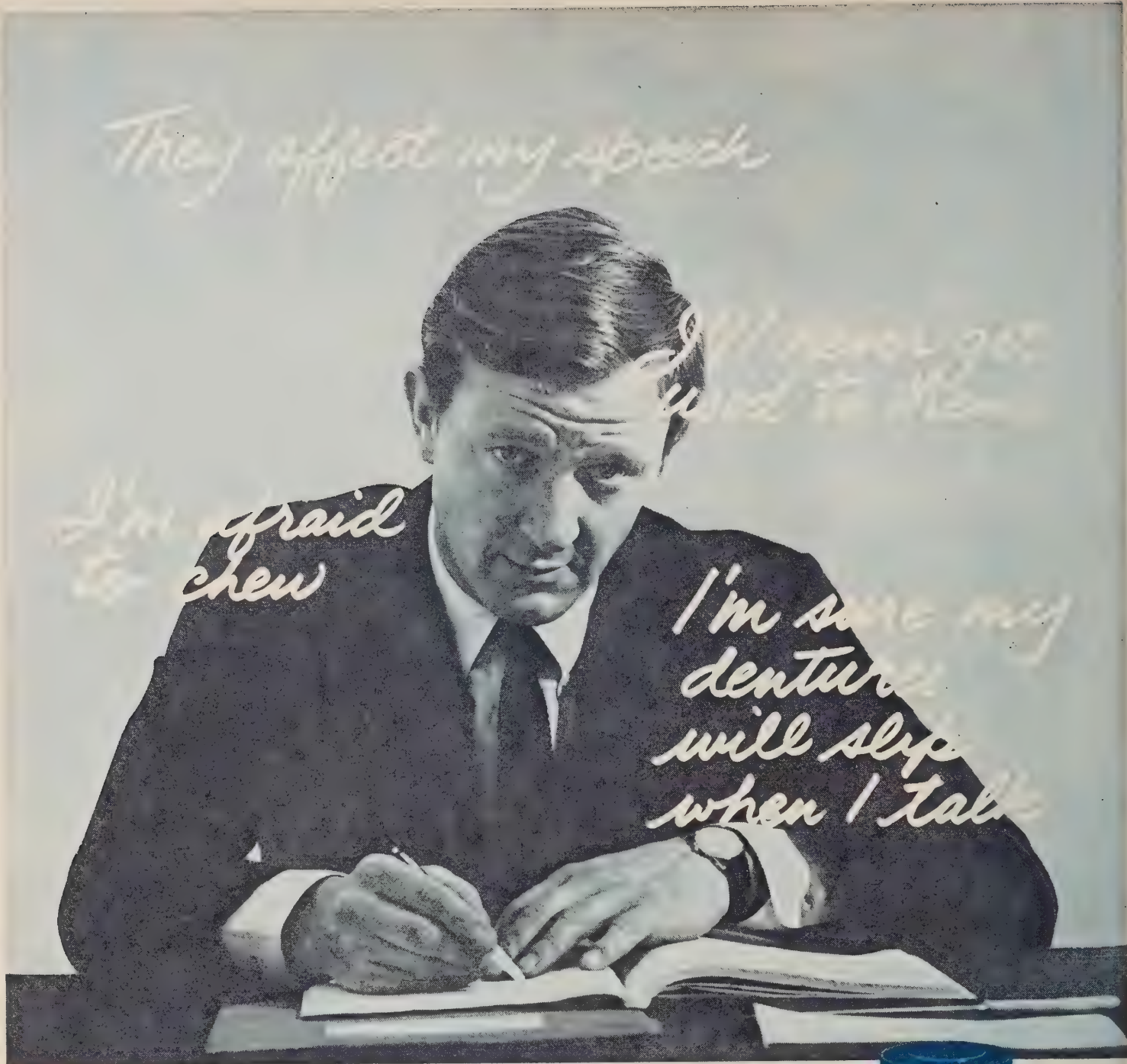
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Evaluation of a fluoride prophylaxis paste in a fluoridated community

H. J. Schutze Jr, DDS

Chicago

D. J. Forrester, DDS, MSD

Sophia B. Balis, DDS

Baltimore, Maryland

A two year assessment of potential benefits from semi-annual prophylaxes with an acidulated phosphate fluoride paste in three to five year old children residing in a fluoridated area prove inconclusive.

Après avoir évalué au cours de deux années, les avantages virtuels de la pratique d'une prophylaxie appliquée deux fois par année, au moyen d'une pâte de phosphate de fluorures acidulé, à des enfants de trois à cinq ans habitant une région pourvue d'eau fluorée, les résultats obtenus se révèlent peu concluants.

Studies to evaluate the effectiveness of various fluoride prophylaxis pastes for the prevention and control of dental caries date back to the work of Bibby et al in 1946.¹ Equivocal findings from this and subsequent studies²⁻¹² underscore the need for careful assessment of all variables in evaluating the effectiveness of a fluoridated prophylaxis paste. These variables include formulation of the polishing agents, fluoride vehicles, fluoride concentrations, number of yearly applications, number of examiners, patient versus hygienist application of the paste, age of the study population, and geographic locale of the subjects, including the presence or absence of a fluoridated public water supply.

The present study was designed to evaluate an acidulated phosphate fluoride prophylaxis paste in children aged three to five who had ingested fluoridated water since birth.

Materials and methods

The study, which began in February 1969, was conducted at the Community Paediatric Centre of the University of Maryland, in Baltimore, where the fluoride content of the public water supplies has been adjusted to 1 ppm since 1953. Participants were limited to children between three and five years of age who were life-long residents of the city.

Because this study was based on patients from a typical inner city clinic setting, some of our subjects came regularly for six month recall appointments, some came occasionally for routine treatment, and some came only occasionally for emergency care. Since patients were accumulated for the study over a period of two years, so-called "drop-outs" were those who failed to return on a regular basis. Therefore

the attrition rate of qualified subjects was equally high for test and control groups.

Subjects were alternately assigned to control and test groups by the oral diagnosis team at the Centre, provided the child met the age and residency requirements. As treatment progressed, children in the control group received a prophylaxis with a plain lava pumice prophylaxis paste, while test group participants were given a prophylaxis with an APF paste (Luride, Davies Rose Hoyt Div. of Kendall Co.). All prophylaxes were performed by the same dental hygienist at the Centre. The test paste contained 1.2 per cent fluoride from ammonium silicofluoride in 0.1 M phosphoric acid, having a pH of 3.0 with silica as the abrasive.

At the initial visit, visual findings were recorded and bitewing radiographs were taken. All charts were then made a part of the patient's permanent file. As the patients in the study were accumulated, the initial examination charts were compared to the bitewing radiographs by the chief of dental services at the Centre. Corrections were made when necessary. All duplicate charts were collected for the study. These initial examinations were evaluated for decayed, extraction-indicated, and filled (def) surfaces¹³ and held for later comparison with six month recalls.

All calculus was removed prior to prophylaxis. After drying the teeth cotton rolls were inserted to isolate them. The paste was then applied with a rubber cup according to the manufacturer's instructions, and allowed to remain on the teeth for four minutes. After the prophylaxis was completed, patients were allowed to rinse gently with water.

Six months later the patients were re-called, re-examined, and re-treated with their respective prophylaxis pastes. Twelve, 18 and 24 months after the initial examination and treatment, patients were again re-evaluated and treated. The results of these examinations constitute the progress of the study.

Findings

After two years, 97 children had completed one year of the study. Their baseline data are shown in Table 1. Since the participants entered the study over a staggered period of time, only 40 children completed a full two year regimen.

One year results — Compared with those seen at the beginning of the study, examinations after one year revealed

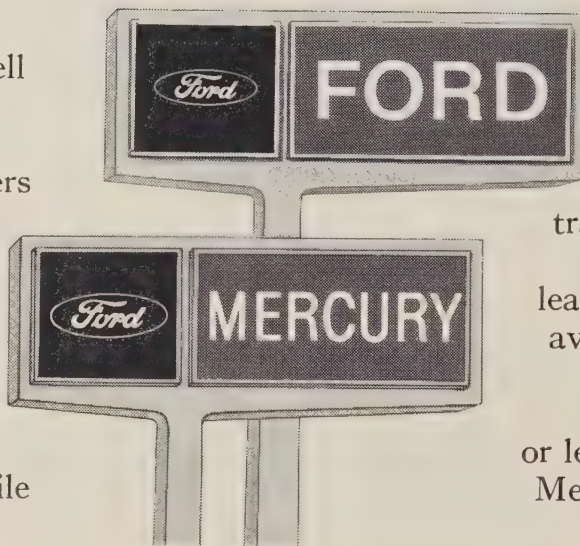
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Baseline data for children participating in the APF prophylaxis study

Table 1

Group	No. of children	Mean def surfaces	S.D.	Mean primary teeth	Mean permanent teeth
Test	51	2.63	±1.40	19.73	0.13
Control	46	2.32	±1.09	19.87	0.27

Mean increment in total def surfaces after one year of the study

Table 2

	Test group	Control group
Mean increment	1.43	1.57
Per cent reduction	8.9	
Probability	0.50 ^{NS*}	

* Not significant, using the student two-tailed t-test.

One year analysis of def surface increments in designated areas of the mouth

Table 3

	Occlusal	Faciolingual	Proximal	Anterior*	Posterior†
Test group	0.79	0.45	0.20	0.14	1.29
Control group	0.63	0.54	0.39	0.24	1.35
Per cent reduction	-25.0	17.1	49.4	42.7	4.5
Probability	0.50 ^{NS}	0.01	0.10 ^{NS}	0.33 ^{NS}	0.50 ^{NS}

* Anterior category represents all surfaces of the six maxillary and six mandibular anterior teeth from cuspid to cuspid.

† Posterior category represents all surfaces of the maxillary and mandibular first and second primary molars, as well as the first permanent molar when present. There were 0.13 and 0.27 permanent teeth and 19.73 and 19.87 primary teeth in the respective test and control groups. All permanent teeth were first permanent molars.

fewer new def surfaces in the test groups than in the control group (Table 2). The difference was not statistically significant, however. The results were therefore categorized by mouth regions as shown in Table 3. All areas except occlusal surfaces exhibited reductions in the test group; but only the 17.1 per cent reduction in the faciolingual category withstood statistical significance at the 95 per cent level.

Analysis of the one year results by subdivisions of the anterior category is seen in Table 4. This revealed a very significant 74.3 per cent reduction in the labiolingual category, in dramatic contrast to a non-significant 50.7 per cent increase in the proximal areas.

Further analysis of the posterior category is shown in Table 5. Only the proximal division of the posterior category showed a reduction, which was statistically significant. The occlusal and faciolingual categories displayed increases in the test group over the control group, but they were not statistically significant.

Two year results — After two years, 20 out of 40 children who completed two full years of treatment were receiving the fluoride paste. They had 16.3 per cent more new def surfaces than the 20 controls who were receiving lava pumice (Table 6).

When the two year results were arrayed in divisions similar to the one year results (Table 7,8,9), the findings were inconclusive. The only exception occurred in the faciolingual division of the anterior category, which showed an 86.9 per cent reduction at the 0.05 level of significance (Table 8).

Discussion

Superficial evaluation of the data presented suggests that the only benefit derived from the APF paste is limited to the facial and lingual surfaces of the anterior teeth of three to five year old children, who live in Baltimore and attend the Community Paediatric Centre, located in that city. On the other hand, a seemingly detrimental effect of equal magnitude is noted in the posterior category (Table 7).

One must evaluate the meaning of these results by considering the many variables present in this population:

1. Children in this age group are unable to brush adequately, even if an attempt is made.¹⁴ Consequently, no supplemental benefit of good oral hygiene is present in this study, as would be anticipated in an older population. Moreover, a false sense of security may have been generated in parents of the participants who felt that six month applications of a fluoride prophylaxis paste were enough to prevent decay.

2. The seemingly counterbalancing action of fluoride loss from abrasion versus fluoride addition from increased concentration in the paste may lean toward the loss side in the primary teeth.¹⁵

3. The size and access in a young child's mouth sometimes hinder instrumentation for rendering an effective prophylaxis in the posterior area. The significant anterior category reduction may exemplify this fact.

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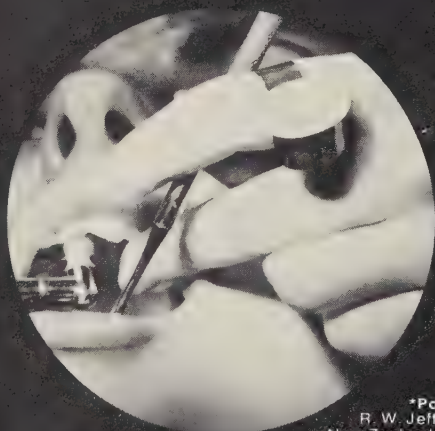
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One year analysis of def surface increments
in the anterior category

Table 4

	Incisal	Faciolingual	Proximal
Test group	0.00	0.04	0.10
Control group	0.00	0.15	0.07
Per cent reduction	0.00	74.3	-50.7
Probability		0.03	0.60 ^{NS}

One year analysis of def surface increments
in the posterior category

Table 5

	Occlusal	Faciolingual	Proximal
Test group	0.78	0.41	0.10
Control group	0.63	0.39	0.33
Per cent reduction	-24.4	-5.4	69.9
Probability	0.64 ^{NS}	0.90 ^{NS}	0.02

Mean increment in total def surfaces
after two years of the study

Table 6

	Test group	Control group
Mean increment	4.65	4.04
Per cent reduction	-16.25	
Probability	0.10 ^{NS}	

Two year analysis of def surface increments
in designated areas of mouth

Table 7

	Occlusal	Faciolingual	Proximal	Anterior	Posterior	Total
Test group	2.15	1.25	1.25	0.20	4.45	4.65
Control group	1.86	1.28	0.90	0.42	3.62	4.04
Per cent reduction	-15.6	2.34	38.9	53.4	-23.0	-16.3
Probability	0.75 ^{NS}	0.98 ^{NS}	0.50 ^{NS}	0.14 ^{NS}	0.04 ^{NS}	0.10 ^{NS}

Two year analysis of def surface increments
in the anterior category

Table 8

	Occlusal	Faciolingual	Proximal
Test group	0.00	0.05	0.15
Control group	0.00	0.38	0.04
Per cent reduction		86.9	-212.
Probability		0.05	0.16 ^{NS}

Summary

A study was undertaken to evaluate the effectiveness of an acidulated phosphate fluoride prophylaxis paste in three to five year old patients who were life-long residents of a fluoridated community. Ninety-seven participants who completed one year of the study showed a non-significant 8.9 per cent reduction in new def surfaces. There were statistically significant reductions in the faciolingual area of the teeth (17.1 per cent) and more specifically in the faciolingual division of the anterior teeth (74.3 per cent). The reductions in the proximal (49.9 per cent), anterior (42.7 per cent), and posterior (4.5 per cent) areas were not significant. The occlusal category showed a 25 per cent increase in new def surfaces in the control group, but this was not statistically significant.

Forty children were evaluated after completing two years of the study. Twenty who received the APF paste had 16.3 per cent more def surfaces than the controls, but again statistical significance was lacking. Non-significant reductions were noted in the faciolingual (2.3 per cent), proximal (38.9 per cent) and anterior (53.4 per cent) categories. Again only the faciolingual division of the anterior category (86.9 per cent) showed a statistically significant reduction.

Dr. Schutze, now at the Michael Reese Hospital, Chicago, was formerly research associate, Department of Paedodontics, School of Dentistry, University of Maryland, Baltimore 21201.

Dr. Forrester is chairman, Department of Paedodontics, School of Dentistry, University of Maryland. Dr. Balis is dental director, Community Paediatric Centre, University of Maryland.

References on page 683

Two year analysis of def surface increments
in the posterior category

Table 9

	Occlusal	Faciolingual	Proximal
Test group	2.15	1.20	1.10
Control group	1.86	0.90	0.86
Per cent reduction	-15.6	-33.3	-27.6
Probability	0.75 ^{NS}	0.16 ^{NS}	0.16 ^{NS}

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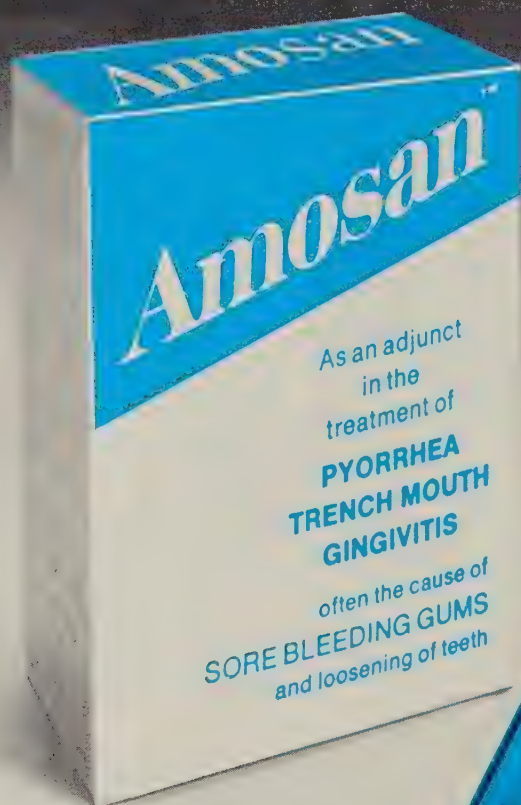
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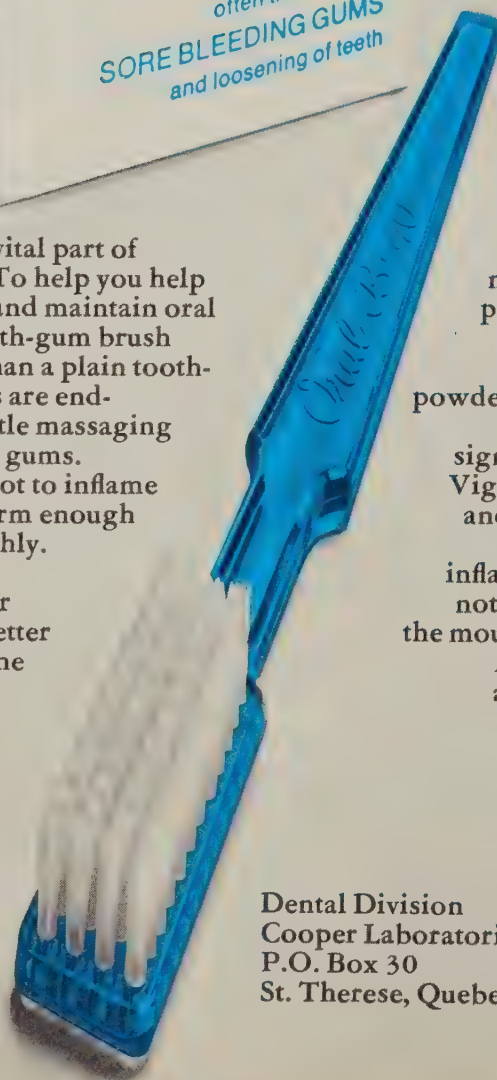
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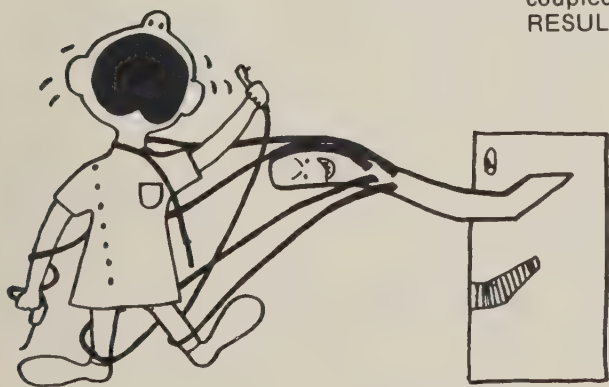
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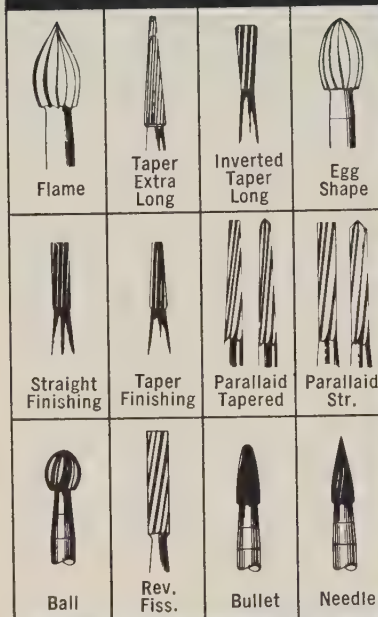
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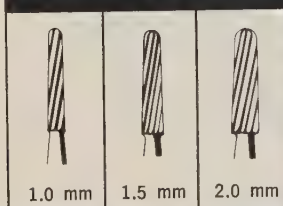
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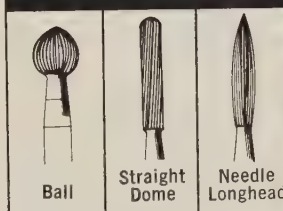
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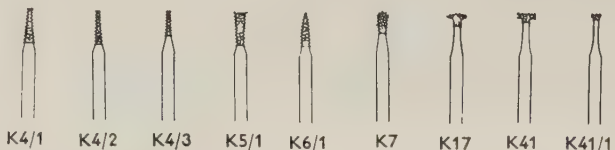
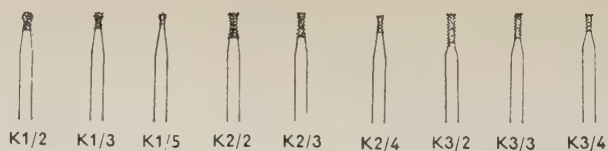
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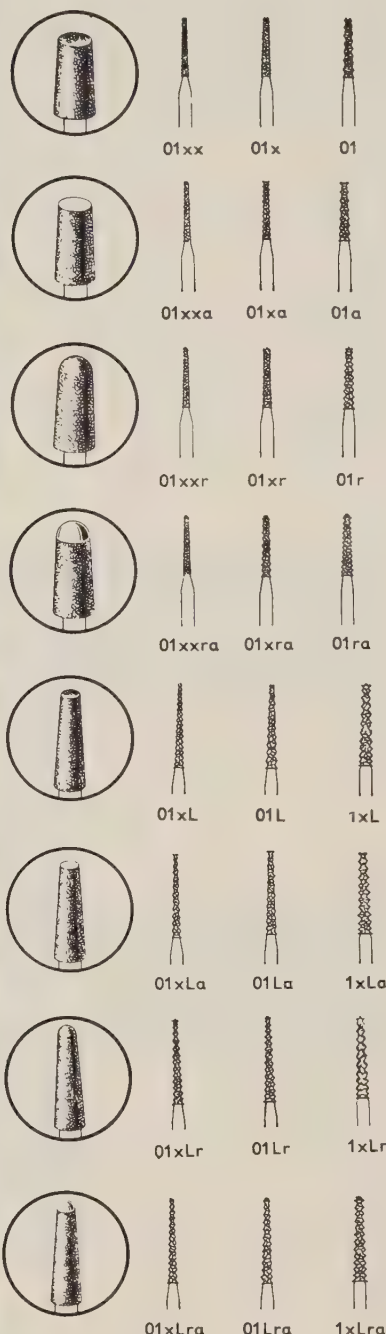
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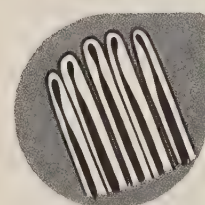
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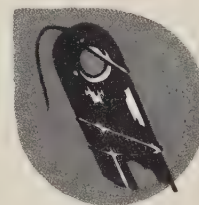
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Journal of the Canadian Dental Association
234 St. George Street
Toronto, Ontario

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ADVERTISERS' INDEX

Ash Temple Ltd.	689
Astra Pharmaceuticals	OBC
Baron Metal	688
Block Drug Company (Canada) Ltd.	649,674
John O. Butler Co.	691
L. D. Caulk Company of Canada	679
Ceramco Inc.	651
Chicago Dental Society	664
Cooper Laboratories Ltd.	686
Denco	653
Dentsply International	640,647,670
Federación Dental del Pacífico	643
Ford Motor Company of Canada Ltd.	676
Charles E. Frosst & Co.	665
General Electric Medical Systems	684
Howmedica	660
The Hygienic Dental Mfg. Company	645
Inter-Unitek Canada Ltd.	652
Janar Co. Inc.	680
Nobilium Products of Canada	668
Parke, Davis & Company	IBC
Pfingst & Company, Inc.	690
Proctor & Gamble	639
William H. Rorer (Canada) Ltd.	662
Shofu Dental Corporation	667,673
Tek-Hughes	678
3M Canada Ltd.	IFC
D.E. Wahler Ltd.	687
Whaledent Inc.	656
Williams Gold Refining Co. (Canada) Ltd.	682,683

J.F. REID TAKES OFFICE

Vancouver dentist, J.Fred Reid, was installed October 9 as president of the Canadian Dental Association, at the Association's national convention in Toronto. As the 55th president, Dr. Reid will convene a special meeting of the Board of Governors to consider the implications of the Task Force Report on the Future of the Canadian Dental Association. At the request of the Governors, this meeting has been postponed from December 1974 to March 3-4, 1975.

H. LINDSAY MUSSELLS PRESIDENT-ELECT

H. Lindsay Mussells, well-known Montreal dentist, is president-elect of the Canadian Dental Association. He won his election against Fred T. Wihak of Regina and will take up his gavel as president at the conclusion of the 1975 annual meeting, in August, at St. John's, Newfoundland. Dr. Mussells has been a member of the CDA Board of Governors since 1964.

Full details of the Board of Governors meeting and national convention will appear in the December issue of the Journal.

RESULTS OF QUEBEC DENTUROLOGIST EXAMS

A total of 545 dental technicians, all members of the Association des techniciens dentaires du Quebec, applied to write the recent Quebec denturologist examinations for the right to practice directly with the public. Four hundred and eight-one candidates actually wrote the examination which consisted of three clinical sessions and a theoretical examination. Of this number, 416 candidates were successful, 57 failed and 8 others failed to present themselves at all sessions.

The examination was held under the supervision of representatives from the Order of Dentists of Quebec, the dental faculties, the Quebec Department of Social Affairs and the denturologists.

HIGH CLAIM REJECTION RATE FOR QUEBEC CHILDREN'S PLAN

As of August, the Quebec children's dental plan was running a dentist claim rejection rate of 67 per cent. Of this percentage, 25% was due to administrative difficulties, showing a need to refine claim handling. The remaining 42% is explained by the lack of experience on the part of dentists in dealing with the Quebec Health Insurance Board and the dentist's own incomplete knowledge of the provisions of the agreement concluded with the Minister of Social Affairs.

Executives of the Quebec Dental Surgeons Association have been co-operating with the Board in examining the causes of claim rejection and have been in communication with their members to further understanding of the plan in hopes of eliminating this tie-up of claim payments.

LE DOCTEUR J.F. REID ENTRE EN FONCTION

Le docteur J.F. Reid, de Vancouver, est entré en fonction, le 9 octobre, comme président de l'Association dentaire canadienne, au congrès national de l'Association qui vient d'avoir lieu à Toronto.

Le docteur Reid, qui devient le 55e président de l'Association, convoquera une assemblée spéciale du Conseil des Gouverneurs pour étudier les implications du rapport du Comité d'enquête sur l'avenir de l'Association dentaire canadienne. A la demande des Gouverneurs, cette réunion, qui devait avoir lieu en décembre 1974, se tiendra les 3 et 4 mars 1975.

LE DOCTEUR H. LINDSAY MUSSELLS EST ELU PRESIDENT DESIGNÉ

Le docteur H. Lindsay Mussells, dentiste bien connu de Montréal, a été élu président désigné de l'Association dentaire canadienne. Il a été préféré au docteur Fred T. Wihak, de Regina. Il occupera le poste de président à la fin du congrès annuel de 1975, qui aura lieu à St-Jean, Terre-Neuve. Le docteur Mussells était membre du Conseil des Gouverneurs depuis 1964.

La livraison de décembre du Journal fournira plus de détails au sujet de l'assemblée du Conseil des Gouverneurs et du congrès qui ont eu lieu en octobre, à Toronto.

RESULTATS DES EXAMENS DES DENTUROLOGISTES DU QUEBEC

Cinq cent quarante-cinq candidats s'étaient inscrits aux examens qui ont eu lieu récemment au Québec pour conférer le droit à des denturologistes de transiger directement avec le public. Tous ces candidats étaient membres de l'Association des techniciens dentaires du Québec. En fait, quatre cent quatre-vingt-un candidats se sont présentés à ces examens qui comportaient trois séances de clinique et une épreuve théorique. De ce nombre, 416 candidats ont réussi les examens, 57 ont échoué et 8 ne se sont pas soumis à toutes les épreuves.

Ces examens avaient lieu sous l'égide des professions sous la surveillance d'un représentant de l'Ordre des dentistes du Québec, des facultés dentaires de la province et du ministère des Affaires sociales et de denturologistes.

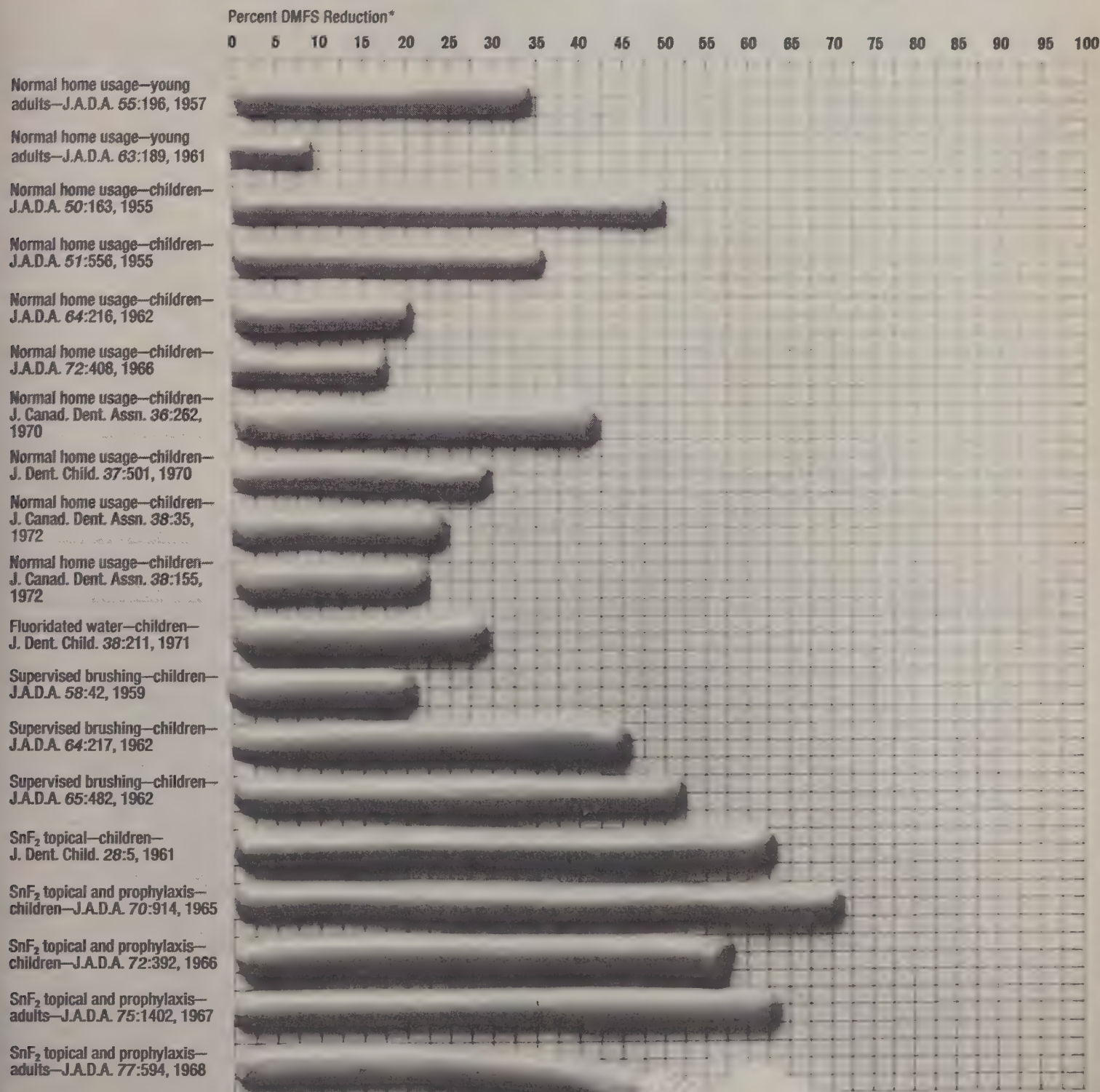
TAUX CONSIDÉRABLE DE REJETS DE RECLAMATIONS EN VERTU DU RÉGIME POUR LES ENFANTS DU QUÉBEC

Les réclamations soumises par les dentistes jusqu'au mois d'août en vertu du Régime pour les enfants du Québec sont refusées dans une proportion de 67%. De ce chiffre, 25% de ces refus sont dus à des complications administratives, ce qui indique qu'il faudrait améliorer le système utilisé pour la manipulation des réclamations. L'autre 42% s'explique par le peu d'expérience qu'ont les dentistes pour leurs rapports avec la Régie de l'assurance-maladie et par le peu de compréhension qu'ils ont des clauses de l'entente signée avec le ministère des Affaires sociales.

L'exécutif de l'Association des chirurgiens-dentistes du Québec collabore avec la Régie pour étudier les causes de ces refus et tente d'éclairer ses membres sur les modalités du régime dans le but d'éliminer les retards apportés au paiement des prestations.

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JOURNAL

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de l'Association Dentaire Canadienne
Nov 1974/Volume 40/No 11

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Editorial

Les dentistes de demain seront-ils des salariés?	700
--	-----

Regular Features

Dentistry in the news	702
Les actualités dentaires	714
Deaths	709
In memoriam	719
Announcements	699

Articles

Factors in the failure of cemented full crowns — Abdullah, Mohammed and Thayer	721
The oblique lateral radiographic projection in dental practice — Poyton and Fireman	727
Application of non-precious alloys to crown and bridge procedures — Mohammed, Grasso and Abdullah	733

Classified advertising

743

Advertisers' index

748

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1. Wiesenbaugh, J.M., Jr. (Mar., 1971). 31(3):302.

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Intramuscular — 10 to 30 mg**/kg/day in two, three or four equal doses.

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Canadian Dental Association

1975 St. John's, Nfld, Aug 17-20

Fédération Dentaire Internationale

1975 Chicago, USA, Oct 20-30

Canadian Meetings

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Nov 16-17, 1974. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Nov 18-20, 1974. Miss M. Komarnicka, 4166 St. Catherine St. W, Montreal 215, P.Q.

Academy of Dentistry (Toronto) Winter Clinic, at Royal York Hotel, Toronto. Nov. 28, 1974. Mrs. P. Williams, 230 St. George St., Toronto, Ont. M5R 2P1.

Alpha Omega Fraternity Seminar, at the Prince Hotel, Toronto. Dec. 13, 1974. Alpha Omega Fraternity, 2016 Bathurst St., Toronto, Ont. M5P 3L1.

Manitoba Dental Association, at Holiday Inn, Winnipeg. January 17-18, 1975. Dr. P. R. Crawford, Chairman, MDA Annual Meeting, 308 Kennedy St., Winnipeg, Man. R3B 2M6.

Ontario Society of Clinical Hypnosis Workshop, at Royal York Hotel, Toronto. Feb 1-2, 1975. J. C. Duncan, Suite 130, 155 James St. S., Hamilton, Ont.

College of Dental Surgeons of British Columbia, at Hyatt Regency Hotel, Vancouver. Apr 30 - May 3, 1975. K. L. Croft, Suite 325, 925 W Georgia St, Vancouver 1, BC

Canadian Congress of Dentistry for Children, at Four Seasons-Sheraton Hotel, Toronto, May 17-18, 1975. J. Bradley, 320 Eramosa Rd, Guelph, Ont.

Ontario Dental Association, at Four Seasons-Sheraton Hotel, Toronto. May 18-21, 1975. Mrs. W. C. Durham, 230 St. George St, Toronto, Ont, M5R 2P1.

Western Canada Dental Society, at Saskatoon, Sask. June 11-14, 1975. E. Freidin, 507-105 21st St. E, Saskatoon, Sask.

Canadian Society of Public Health Dentists, at St John's, Nfld. Aug 17-20, 1975. J. M. Conchie, 14265 - 56th Ave., Surrey, BC

Montreal Dental Club Pre-Convention Seminar, at Queen Elizabeth Hotel, Montreal. Oct 25-26, 1975. Miss M. Komarnicka, 4166 St. Catherine St W, Montreal 215, P.Q.

Montreal Dental Club Fall Clinic, at Queen Elizabeth Hotel, Montreal. Oct 27-29, 1975. Miss M. Komarnicka, 4166 St Catherine St W, Montreal 215, P.Q.

Les Journées Dentaires du Québec, à L'Hôtel Bonaventure, Montréal. 28-30 avril 1976. M. de Bastien, 4290 est rue Beaubien, Montréal 409, Qué.

Royal College of Dentists of Canada

Part I Examinations (Basic Sciences), leading to Fellowship in the Royal College of Dentists of Canada, will be held on Monday, June 16, 1975, in regional centres across Canada. Applications and \$100 fee must be received by January 15, 1975.

Part II Examinations (Oral) will be held in Toronto late November or early December, 1975.

Application forms for the Part I Examinations and further information may be obtained from Dr. John E. Speck, Ste. 614, 170 St. George St., Toronto, Ont. M5R 2M8.

Les Dentistes de Demain Seront-ils des Salariés?

C'est devenu un lieu commun que d'affirmer que l'Etat est envahissant: il est sorti de sa neutralité traditionnelle et ne se contente plus d'exercer un rôle limité de suppléance. Il joue un rôle de direction, veille sur la sécurité et le bien-être des citoyens et les assure contre les risques sociaux.

La santé et l'éducation sont devenus des services publics. De même que la profession médicale connaît maintenant l'assurance-maladie et se dirige presque résolument vers le salariat, la profession dentaire, avec une étape de retard, connaît peut-être aussi la fonctionnairisation. Les traitements dentaires complets coûtent cher et les personnes aux revenus modestes ne peuvent souvent pas se les offrir.

Après avoir reconnu aux Québécois le droit à l'éducation puis aux services médicaux, l'Etat leur accordait dans une mesure limitée les services dentaires: chirurgie buccale dans les hôpitaux et traitements aux enfants. Les assistés sociaux, par ailleurs, bénéficient de certains avantages — très limités, il est vrai — mais qui répondent à leurs besoins urgents.

La classe moyenne peut, sans doute, profiter de programmes d'assurances pour les soins dentaires, mais ces régimes ne se sont pas implantés jusqu'à maintenant d'une façon générale: ils constituent des exceptions. Des syndicats ont établi ici et là des cliniques dentaires à l'intention de leurs membres et ces services, aux Etats-Unis, par le biais du Taft Hartley Act, peuvent être l'objet de clauses normatives à la table des négociations.

Cependant la catégorie de la population à revenus modiques, en grande majorité, ne peut pas recevoir les traitements dont elle a besoin et il faut se rappeler qu'elle représente aussi le volume le plus fort des votes au cours d'élections.

On peut s'attendre que, dans un avenir plus ou moins prochain, le "denticare" s'installe au Canada et en conséquence au Québec.

La profession dentaire suivra fatalement la profession médicale dans les méandres que celle-ci traversera.

Un autre facteur, le Code des professions, par le truchement de l'Office des professions, se propose de faire participer les corporations professionnelles à des missions de services publics. L'accent n'est plus mis sur leurs privilè-

ges, mais sur leur fonction sociale. La spécialisation, l'excellence scientifique, le développement d'un sens plus élevé de l'éthique n'empêcheront pas la socialisation de la profession.

Sans s'arrêter pour le moment au salariat des médecins, le ministère des Affaires sociales, avec un recul de quatre années, peut faire le bilan de la Régie de l'assurance-maladie et il constate entr'autres les faits suivants:

1. Déséquilibres sur le plan géographique de la répartition des effectifs médicaux.
2. Disproportions entre les ressources allouées aux soins curatifs par rapport aux activités de préventions, de promotion de la santé, de recherches, etc.
3. Fréquence trop élevée de certains actes (extractions, amygdalectomies, etc).
4. Manque d'intérêt d'un grand nombre de médecins pour les cliniques externes, services d'urgence, etc.

Les suggestions auxquelles on pense pour remédier à ces lacunes se situent au niveau de la rémunération du médecin par l'établissement au sein duquel il exerce son activité. Les établissements (hôpitaux, centres communautaires de santé) recevraient des allocations pour les soins médicaux de la même façon qu'il leur en est attribué pour leurs autres fonctions.

Elles touchent aussi aux conseils régionaux qui se verront attribuer des budgets pour la rémunération des médecins pratiquant totalement ou partiellement hors des établissements. Il serait alors possible aux conseils régionaux de contracter avec les médecins en fonction d'une meilleure distribution géographique, d'une meilleure répartition entre les spécialistes, de fixer certains objectifs de services et de soins, etc.

Ces solutions, pour répondre aux objectifs fondamentaux de l'assurance-santé, ne constituent peut-être qu'une étape vers le salariat et le dentiste doit s'intéresser aux événements qui se produisent au sein de la profession médicale, car il peut s'attendre qu'éventuellement il sera mis en face de situations dont les médecins font les frais d'expérience.

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CANADIANS ASSUME ROLES IN WORLD DENTISTRY

- FDI World Congress appointments
- BDA honors executive director

W. G. McIntosh, executive director of the Canadian Dental Association, has been elected to a three-year term as vice-president of the Fédération Dentaire Internationale. His election was announced during the FDI World Dental Congress held in London, England, in September.

During the World Dental Congress a number of Canadian dentists were elected to FDI offices. W. G. McIntosh and Marjorie Jackson of Toronto were named consultants to the Commission on Dental Practice. Brigadier General Craigie was re-elected consultant to the Commission on Armed Forces, and Colonel W. Thompson was elected a member of this same commission.

R. M. Grainger, editor of the CDA Journal, and Frank McCombie of Vancouver, were both re-elected consultants to the Commission of Classification and Statistics on Oral Conditions. George Beagrie of Toronto was elected to membership on the Commission on Dental Education and Jean-Paul Lussier of Montreal was re-elected as a consultant to this same commission.

S. L. Kogon of London, Ont., was re-elected a consultant to the Commission on Dental Research and D. C. Smith of Toronto was re-elected a consultant to the Commission on Dental Materials, Instruments, Equipment and Therapeutics.

Dr. McIntosh was also awarded an honorary membership in the British Dental Association. Other FDI officers receiving honorary memberships in the BDA include: Hans Freihoffer of Switzerland, FDI president; Alan Grainger of Australia, president-elect; Rolph Braun of Germany, treasurer; A. Shienin of Finland, speaker; Gerald Leatherman of England, executive director; Brigadier B. Fuller of New Zealand, commission member; Gordon Watson of the United States, executive director of the American Dental Association and FDI council member; and J. Jardiné of France, council member.

Dr. and Mrs. J. (Jack) E. Abra of Winnipeg prepare to enjoy the opening ceremonies of the FDI World Congress held in London, England, September 8-14.



W. G. McIntosh (R), CDA executive director, receives the congratulations of Sir Robert Bradlaw, president of the British Dental Association. Dr. McIntosh was made an honorary member of the BDA during the FDI World Congress in London, England.



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STATUS OF EDUCATIONAL PROGRAMS

The following list of programs evaluated by the Canadian Dental Association's Council on Education shows the status of various programs in universities and colleges across Canada as of May, 1974. Undergraduate dental and dental hygiene programs and dental assisting programs were listed in the October 1974 issue.

Graduate and postgraduate programs in CDA recognized specialties

Name of university	Program evaluated	Accreditation status awarded
Faculty of Dentistry University of Alberta	Orthodontics	Approval
Faculty of Dentistry University of Alberta	Prosthodontics	Provisional approval
Faculty of Dentistry University of Manitoba	Periodontics	Approval
Faculty of Dentistry University of Manitoba	Orthodontics	Approval
Faculty of Dentistry University of Manitoba	Oral Pathology	Provisional approval
Faculty of Dentistry University of Manitoba	Oral Surgery	Accreditation eligible
Faculty of Dentistry University of Toronto	Pædodontics	Approval
Faculty of Dentistry University of Toronto	Orthodontics	Approval
Faculty of Dentistry University of Toronto	Oral Pathology	Approval
Faculty of Dentistry University of Toronto	Periodontics	Approval
Faculty of Dentistry University of Toronto	Oral Surgery	Provisional approval
Faculty of Dentistry University of Western Ontario	Oral Pathology	Accreditation eligible
Faculty of Dentistry McGill University	Oral Surgery	Provisional approval
Faculty of Dentistry McGill University	Prosthodontics	Provisional approval
Faculté de médecine dentaire Université de Montréal	Orthodontics	Approval
Faculté de médecine dentaire Université de Montréal	Pædodontics	Provisional approval

CDA Board appoints CFDE trustees

The Canadian Dental Association's Board of Governors appointed three new Trustees of the Canadian Fund for Dental Education during its meeting on October 4. They are: James A. Guest of London, Ontario, a past member of the Ontario Dental Association's Executive Council; W. Kenneth Martin of Regina, a past president of the College of Dental Surgeons of Saskatchewan; and Stanley O. Tebbutt of Toronto, vice president of Dentsply Canada Ltd.

Basil M. Plumb of Vancouver, a past president of the Vancouver and District Dental Society, was appointed CFDE Trustee at last year's Board of Governors meeting in Vancouver.

The appointments were made to fill vacancies on CFDE's Board of Trustees caused by the retirement of Mark G. Boyes of Toronto, Maxwell J. Lipkind of Calgary, and Sheppard Margolese of Vancouver, after completion of their terms of office and by the death of Charles E. Peirce of Toronto.

Canadian delegate to health conference

Jean-Paul Lussier, Dean of the Faculty of Dental Medicine at the University of Montreal, was one of 72 senior health executives from the U.S., Canada and four other countries who participated this summer in the Program for Health Systems Management.

The intensive six-week program, held on the Harvard Business School campus, was sponsored by the Business School and the Harvard graduate schools of medicine and public health. The program places dual emphasis on broadening the management abilities of high level health executives and their understanding of the health care system as a whole.

Those who attended the program represented many sectors of the health care field, including government, education, private industry, health care providers, organizations and insurers.

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Summary of clinical studies of Colgate with MFP* Details of these studies are available upon request.

Clinical Study	Results: MFP Caries Reductions vs. Other Dentifrice	Confidence Level	Duration	Number of Subjects	Age Range	Study Conditions
Winkler, S. B., and Jamison, H. C. <i>Journal of Dentistry for Children</i> , 30, 17 (1963).	I MFP: 27% fewer DMFS than SF-CPP	97.5	2 yrs.	293	6-20	Brushing supervised 3x/day during school year.
Frankl, S. N., and Alman, J. E., <i>Journal of Oral Therapeutics and Pharmacology</i> , 4, 443 (1968).	II MFP: 11% fewer DMFS than SF-CPP	95.0	3 yrs.	409	6-15	Brushing unsupervised.
Argyle, M. E., <i>Bulletin, Academy of Medicine New Jersey</i> , 14, 251 (1968).	III-A MFP: 17% fewer DMFS than Control	98.0	3 yrs.	362	8-14	Brushing unsupervised.
	III-B MFP: 5% fewer DMFS than SF-CPP	N.S.	3 yrs.	369	8-14	Water fluoridated.
Thomas, A. E., and Jamison, H. C., <i>Ibid.</i> , 14, 1 (1968).	IV MFP: 34% fewer DMFS than Control	99.5	2 yrs.	305	8-16	Brushing supervised 2x/day.
Argyle, M. E., <i>Ibid.</i> , 14, 247 (1968).	V-A MFP: 21% fewer DMFS than Control	99.0	22 mos.	457	7-21	Brushing supervised 3x/day.
	V-B MFP: 13% fewer DMFS than SF-IMP	90.0	22 mos.	457	7-21	
Winking, E. A., Gotjamanos, T., and Vowles, J., <i>The Australian Dental Journal</i> , 13, 201 (1968).	VI-A MFP: 20% fewer DMFS than Control	99.9	2 yrs.	844	11-13	Brushing unsupervised.
	VI-B MFP: 2% more DMFS than SF-IMP	N.S.	2 yrs.	844	11-13	
Miller, I. J., Holst, J. J., and Sørensen, E., <i>British Dental Journal</i> , 124, 209 (1968).	VII MFP: 19% fewer DMFS than Control	99.9	30 mos.	578	10-12	Brushing supervised 1x/day during school year.
aylor, M. N., and Emslie, R. D., <i>British Dental Journal</i> , 123, 17 (1967).	VIII MFP-DP: 18% fewer DMFS than Control	99.9	3 yrs.	995	11-12	Brushing unsupervised.
Winking, E. A., Cellier, K. M., Gotjamanos, T., Vowles, N. J., and Van Der Wielen, I., <i>Archives Oral Biology</i> , 13, 467 (1968).	IX					
Gram, G. S., <i>Bulletin de la Société de Chimie Biologique</i> , 50, 1841, (1968).	X					

KEY TO DENTIFRICES:

MFP	Colgate with MFP Dentifrice
SF-CPP	Stannous fluoride-calcium pyrophosphate dentifrice
SF-IMP	Stannous fluoride-insoluble sodium metaphosphate dentifrice
MFP-DP	Sarcosinate plus MFP dentifrice with dicalcium phosphate
Control	Null dentifrice
N.S.	Not significant

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†Colgate has been shown to be an effective decay-preventive dentifrice that can be of significant value when used in a conscientiously applied program of oral hygiene and regular professional care."

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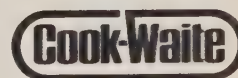


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CDNAA strives for national unity

One of the top priority objectives of the Canadian Dental Nurses and Assistants Association is to establish a strong sense of unity among its members across Canada. A look at the itinerary of CDNAA president, Elizabeth Purchase, during her term of office attests to the time and effort being put into achieving this objective.

Ms. Purchase began her travels in January when she attended the Canadian Dental Association's Auxiliary Workshop in Banff, Alberta. This trip was followed up by a visit to Calgary to attend a meeting of the Calgary Dental Assistants Association.

In March she arrived in Fredericton to participate in the organizational meeting of the New Brunswick Dental Assistants Association, and then travelled on to Montreal for conferences with the assistants association in that city as well as the provincial association. Also in March, she visited Toronto for the CDA Health Care Council and to meet with the executive of local and provincial assistants groups. She then went on to Hamilton, Thunder Bay and Ottawa.

During the month of May, Ms. Purchase attended the Ontario Dental Assistants Convention in Toronto and the Atlantic Provinces Convention in Halifax.

In October she travelled to Fredericton for the New Brunswick Dental Association's meeting and to Saint John for the meeting of the Dental Assistants Association. Her final trip was to Toronto for the CDA Board of Governors meeting and the CDNAA annual meeting and convention, where a cocktail party was held in her honour.

Elizabeth Purchase is currently employed by David Peters of St. John's, Newfoundland, a past president of the Canadian Dental Association.

ONTARIO LAUNCHES DRUG BENEFIT PLAN

In September of this year, approximately 548,000 low-income, elderly, blind and disabled residents of Ontario became eligible to receive free prescribed drugs under the Drug Benefit, part of the province's Guaranteed Annual Income System.

The drugs eligible for reimbursement are those prescribed by a doctor or dentist and listed in the Drug Benefit Formulary. The Formulary lists approximately 1,200 drug preparations which meet the therapeutic standards approved by the provincial Ministry of Health. The Ministry will pay the cost of the lowest priced interchangeable therapeutic product listed.

Extemporaneous preparations, such as a drug or mixture of drugs compounded in a pharmacy according to the order of the prescriber, are also eligible for reimbursement. The maximum amount of drugs that may be dispensed at one time is a month's supply.

To ensure validity of telephoned prescriptions the pharmacist is required to have the prescription signed by the prescriber within 15 days of dispensing.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on September 30, 1974:

- Guaranteed Fund* \$11.222;
- Fixed Income Fund* \$14.174;
- Common Stock Fund* \$22.127.

Total assets (market value) of the plan were \$15,091,074.44.

The following portfolio purchases and sales occurred during the preceding month: Bought, \$12,000 Royal Trust GIR, \$300,000 IAC discount note, \$500,000 IAC discount note. Sold, \$80,000 Royal Trust GIR, \$300,000 CMB Holdings Ltd. note, \$500,000 Niagara Finance Company note.

For further information write to CDA-sponsored Pension and Insurance Plans, 14 Madison Ave., Toronto, Ont.

DENTAL NURSES BOARD APPOINTMENT

T.E. Donovan, Regina dentist and vice-president of the College of Dental Surgeons of Saskatchewan, has been appointed to the Saskatchewan dental nurses board by Health Minister Walter Smishek. The dental nurses board was set up last year to establish and maintain rules for the licensing of dental nurses and to set standards of professional conduct for dental nurses.

Mount Royal Dental Society

L. Prosterman has been elected president of the Mount Royal Dental Society and the Montreal Alumni Chapter of the Alpha Omega Fraternity. He succeeds M. Tenenbaum. Other officers elected by the Society include: F.I. Muroff, vice president; E.M. Hershenfield, corresponding secretary; E. Kleinman, recording secretary; and W. Klein, treasurer.

The Mount Royal Dental Society is comprised of 280 Montreal area dentists. This year the Society celebrated the 52nd anniversary of its formation.

DEATHS

Black, Alan. 38. Toronto. University of Toronto, 1962. 15-8-74.

Chalifoux, Isaie Edmond. 81. Montreal. Laval University, 1917. 13-8-74.

Donnelly, Kenneth Patrick. 60. Vancouver. University of Alberta, 1939. 24-9-74. Survived by Margaret (wife); Brenden, Quentin, Kevin, Michael, Terrance, David and Ken (sons); Marilyn and Eileen (daughters).

Lantier, Jacques Philippe. 86. Montreal, Laval University, 1913. 20-5-74.

Meloche, Roger. 66. Montreal. University of Montreal, 1934. 31-5-74.

Sinanan, Kenneth. 57. Toronto. McGill University, 1943. 6-9-74.

THE INTERNATIONAL CONNECTION

By Terry A. Shapero, DDS
Canadian Co-ordinator
International Association of
Dental Students

Canada's formal application for membership in the International Association of Dental Students was unanimously accepted during the XXII IADS congress held in Amsterdam last August. Ian Watson, Rod Toms and Terry Shapero, all of the University of Toronto, attended the Congress as representatives of Canadian dental students.

The Association, founded in 1951, encompasses more than 80 societies in 20 countries and its membership totals in excess of 30,000 dental students. In co-operation with such organizations as the Fédération Dentaire Internationale, the World Health Organization and the International Federation of Medical Student Associations, the IADS works to achieve the following objectives:

- 1) to promote international contact and co-operation between dental students and dental student organizations throughout the world;
- 2) to establish and encourage international programs which will stimulate the interest of dental students in the advancement of the science and art of dentistry.

The Association pursues these objectives through its various programs and projects, which include: the promotion of exchange between dental students among various countries; the arrangement of an international congress of dental students; publication of the IADS Newsletter at least four times a year; and the development of student and graduate placement for work in underdeveloped countries. At the present time, most of the interest among Canadian dental students is focussed on the International Congress and the exchange programs.

The International Congress is held annually and attracts many students from around the world to attend lectures and demonstrations given by lead-

ing specialists in the field of dentistry. Sightseeing and social events in the host country form an integral part of the program. In addition to this year's meeting in Amsterdam, recent congresses have been held in West Berlin, the Royal University in Malta, the Work School in England and, last year, in Turku, Finland. The scope of such assemblies can be far reaching. They have the potential of improving the world's health standard and stimulating the growth of dental science from the level of the schools, on to the field of research and through to the general practice of dentistry.

The IADS student exchange program is designed to increase contact among dental students on an international level while providing an educational experience not included in the usual dental curriculum. These exchanges provide an opportunity to acquire first hand knowledge of dental health care, techniques, practice and administration in foreign countries through direct work and social interaction with students and educators. Students at the host institution also benefit through exposure to the various new and challenging techniques and concepts of the exchange.

Programs such as these are administered locally by a student liaison officer of the IADS in co-operation with his respective dental faculty and school administration. Generally, the exchange is responsible for providing his own transportation costs, while the host school is responsible for providing room, board and sometimes a small living allowance. Subsidies vary according on whether or not the exchange is bilateral between two countries or unilateral with one country sending a student to another. Regardless, the host is responsible for arranging a profitable

educational and social exchange.

Although at present these programs are new to Canadian students, active participation is already developing. The focus for most of this activity is centered around the faculty of dentistry at the University of Toronto. The Dental Students' Society, recognizing the merit of active membership in the IADS, have added to their body the official position of IADS Liaison Officer with status similar to that of the representative to the Ontario and Canadian Dental Associations. This year's officer is I. C. Cervini who has been working with Terry Shapero, the Canadian Co-ordinator for the IADS, to organize a prototype program for all of Canada.

Some of the grants that have been provided to support this program have come from such sources as: the University of Toronto's Varsity Fund; the Students' Administrative Council of U. of T.; the Toronto Academy of Dentistry; the Toronto Dental Faculty Alumni; the Ontario Dental Association and the students themselves. Membership fees in the IADS will be paid by the Canadian Dental Association through its Student Membership Program.

Money raised by the students this past year was used to support a summer exchange program in the Toronto area which brought Thanos Mayrakos and Nicolas Kouvelas of Athens, Greece to the city. In exchange, Bob McWhirter visited Greece.

With this summer exchange program, tangible progress of the International Association of Dental Students in Canada has become a reality. Yet this is only the beginning. As involvement increases and the program expands, the benefits of IADS membership to dental students in Canada will undoubtedly be enhanced.

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*Osborne, J. W.; Phillips, R. W., Norman, R. D. and Swartz, M. L. Static Creep of Alloys. Journal ADA, Vol. 89, September 1974.



LIABILITY CLAIMS

While the possibility of a large claim is much greater in the area of malpractice, the incidence of damage claims under the liability portion of insurance policies is almost 75 to 1. Almost all these claims are for water damage to the property of others, and, in almost all cases, the accident was avoidable.

In a recent loss the adjuster found a water tank which had brass fittings. The brass fittings were attached to the building water supply and the building water supply pipes were made of copper. When the hook-up was made, the plumber who installed the unit used copper piping flux. After a period of time the flux caused the brass piping to corrode in a number of different locations. The corrosion first appeared as a white spot on the piping. Samples of the water were sent to the Technical Service Laboratories. After all tests were completed, it was their opinion

that the corrosion was caused by the mis-matching of the two different metals and the use of the copper flux.

They said, in order to avoid further losses, it would be in the best interest for all concerned if dentists were informed of this problem so they could correct the situation if it exists in their offices.

The loss as far as what was covered by the insurance policy was minimal. However, the loss to the dentist, since he had to replace all the piping, was far greater. The dentist is now attempting to recover his portion of the loss from the manufacturer and/or installer of the system.

Prevention in this matter, by other dentists who have installed this type of system, may avoid future problems and costs.

There have also been a number of losses in connection with units and the

majority of the losses occurred as a result of the following:

- (a) The valves being left on when the office is unoccupied.
- (b) Pipes failing and/or becoming disengaged at the junction with other piping.
- (c) Rubber hoses wearing out.

A periodic inspection of the hoses will reveal loose connections and/or piping and hoses which need replacement. This would help to avoid quite a number of claims in the future.

Many other examples could be quoted, such as overflowing basins where the plug is left in the sink with a dripping tap; and cuspidors filled with debris. An old, but true, saying is "An ounce of prevention is worth a pound of cure" or, to modernize it, "A gram of prevention is worth a kilo of cure."

LES RECLAMATIONS DES DOMMAGES MATERIELS

Les réclamations dans le domaine de la responsabilité professionnelle sont susceptibles d'augmenter en nombre et en volume. Toutefois celles qui touchent les dommages matériels couverts par une assurance sont plus fréquentes dans une proportion de 75 contre 1. Presque toutes ces réclamations ont trait à des dégâts causés par l'eau à la propriété d'autrui et, dans presque tous les cas, les accidents pourraient être prévenus.

Au cours d'un sinistre récent, survenu chez un dentiste, un ajusteur a trouvé qu'il s'agissait d'un réservoir à eau muni d'accessoires en cuivre jaune. Ces accessoires étaient fixés à la source d'eau de l'édifice et les tuyaux conduisant l'eau étaient aussi en cuivre rouge. Le plombier qui fit l'installation du réservoir se servit de soudure de cuivre. Après un certain temps, la soudure a fait que les tuyaux en cuivre se sont corrodés à plusieurs endroits. Au début, cette corrosion est apparue sous

la forme de tâches blanches sur les tuyaux. Des échantillons d'eau furent envoyés au laboratoire d'analyse d'eau. A la fin des tests, on a conclu que la corrosion était causée par l'apposition de deux métaux incompatibles à l'aide de soudure de cuivre.

Le laboratoire a conseillé, pour prévenir d'autres dommages et dans l'intérêt de tous les intéressés, d'avertir les dentistes pour qu'ils corrigent ce défaut, si présent dans leur cabinet.

Les frais de la compagnie d'assurance furent minimes, mais le dentiste a dû déboursier une somme assez importante pour remplacer tous les tuyaux. Ce dentiste tente actuellement d'obtenir un remboursement du fabricant et/ou de plombier.

Les dentistes qui ont fait installer des systèmes semblables feraient bien, en faisant preuve de prévention, d'éviter des problèmes éventuels et de n'avoir

pas à dépenser des montants substantiels.

Il y a aussi des sinistres qui peuvent être reliés aux colonnes de service et la majorité des réclamations ont une des causes suivantes:

- (a) Robinets laissés ouverts en l'absence de personnel du cabinet.
- (b) Tuyaux rouillés ou joints défectueux.
- (c) Usure de boyaux de caoutchouc.

Des examens des boyaux en caoutchouc faits à intervalles réguliers révèlent parfois des unions lâches ou/et des tuyaux ou des boyaux qui doivent être remplacés. Cette précaution est susceptible de prévenir des dommages éventuels.

On pourrait citer autres exemples, telles un évier qui déborde parce qu'un robinet y dégoute quand le bouchon est fixé; un crachoir rempli de débris, etc. Il y a un vieux proverbe qui dit: "Mieux vaut prévenir que guérir".

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EXAMENS DES DENTUROLOGISTES

Le projet de loi 266 (Loi sur la denturologie), sanctionné le 6 juillet 1973, renferme une clause (# 18) au sujet des examens que doivent subir avec succès les membres de l'Association des techniciens dentaires de la province du Québec pour obtenir un permis les autorisant à exercer comme denturologue dans les limites prévues par la loi.

Les examens sont déterminés par l'Office des professions qui doit s'adjoindre le concours d'experts comprenant notamment des représentants de l'Association des techniciens dentaires de la province de Québec et de l'Ordre des dentistes du Québec.

Ces examens sont contrôlés par un comité d'examineurs formé d'un président nommé par l'Office des professions, de trois représentants de l'Association des techniciens dentaires, d'un représentant de l'Ordre des dentistes, d'un représentant des facultés dentaires du Québec et d'un représentant du ministère des affaires sociales.

Les examens comprenaient deux parties: un examen clinique et un examen théorique.

Examen clinique

Les examens cliniques, auxquels se sont présentés 545 candidats, se sont déroulés à la Faculté de médecine dentaire de l'Université de Montréal du 2 juillet au 27 août, à raison de trois ou quatre journées par semaine. Chaque candidat fournissait son propre patient et ce patient devait être muni d'un certificat de santé buccale délivré par un dentiste.

L'examen clinique a comporté trois séances:

1ère séance: prise d'empreintes primaires, coulée des moulages provisoires, fabrication de porte-empreintes individuels, prise d'empreintes finales, coulée des moulages définitifs, confection de plaques-bases, prise d'articulés comprenant plan d'occlusion, tracé des paramètres et enregistrement de la dimension verticale.

2ème séance: essayage des prothèse avant la cuisson: vérification de la dimension verticale, de la relation centrée, du tracé des paramètres, du plan d'occlusion, de la position des dents sur la crête, de la position de la langue, de la propulsion et du scellement périphérique postérieur.

3ème séance: mise des prothèses en bouche, vérification de l'occlusion centrée, du balancement en latéralité, de la protrusion, de la dimension verticale, du plan d'occlusion, de la position des dents sur la crête, du scellement périphérique postérieur, des contours périphériques, de la rétention, de la stabilité et de la finition des pièces.

Les examinateurs attribuaient des notes variant de 1 à 5 sur 39 vérifications ou groupes de vérifications. Chaque vérification fut l'objet d'une pondération basée sur l'objectif de l'examen: se rendre compte si les candidats avaient la compétence nécessaire pour entreprendre directement pour le public, sans l'intervention d'un dentiste, la confection de prothèses dentaires complètes.

Examen théorique

L'examen théorique divisé en cinq parties a duré quatre heures et s'est dé-

roulé le 29 août à l'Université de Montréal. Cet examen, qui comprenait une centaine de questions, était de type objectif: choix multiple unique, choix multiple double, choix de la véracité ou de la fausseté d'une affirmation parmi cinq affirmations, identification de lettres sur un schéma anatomique; choix d'une définition parmi quatre ou cinq possibilités.

Chacune des questions fut également pondérée selon ses rapports avec l'exercice clinique.

Pondération globale

L'examen pratique a eu une valeur de 70% sur le résultat total et l'examen théorique, 30%. De plus, pour l'examen théorique, on a accordé aux candidats, qui faisaient partie de l'Association des techniciens dentaires du Québec depuis plus de cinq ans, un pour cent par année d'exercice comme technicien.

Toutes les notes ont été compilées par ordinateurs.

Résultats

Sur 545 candidats inscrits, 481 se sont présentés aux trois séances de l'examen pratique ainsi qu'à l'examen théorique. Les examinateurs ont jugé que 416 candidats avaient réussi l'examen global avec succès et que 57 autres avaient échoué l'ensemble des épreuves. L'Office des professions aura à se prononcer sur le sort de huit candidats, qui, pour diverses raisons, n'ont pas pu se soumettre à toutes les épreuves de l'examen.

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dans le domaine de l'analgésie; elle est employée dans près de 30% des interventions chirurgicales. Il a déclaré que ce sont les dentistes chinois qui ont été les premiers à utiliser l'acupuncture comme agent analgésique.

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Représentant au système métrique

Le docteur Ralph Barolet a été nommé le représentant de l'Association sur le comité de la santé et du bien-être de la Commission du système métrique. Le docteur Barolet est secrétaire de l'Ecole de Médecine dentaire de l'Université Laval.

Membre du comité de l'ADC pour les normes des produits et des appareils dentaires, le docteur Barolet s'intéresse particulièrement aux matériaux dentaires. Il est ingénieur et dentiste et son passé le rend particulièrement apte à siéger à la Commission du système métrique.

Gagnant de concours

Le docteur Huan G. Pham, professeur adjoint à la section de chirurgie buccale à la Faculté de médecine dentaire de l'Université de Montréal, a gagné le concours annuel de la Société canadienne de chirurgie buccale.

Son travail s'intitulait: "L'effet de l'acide Epsilon aminocaproïque (AEAC) sur la guérison des plaies alvéolaires".

Régime d'épargne retraite

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 sept, 1974:

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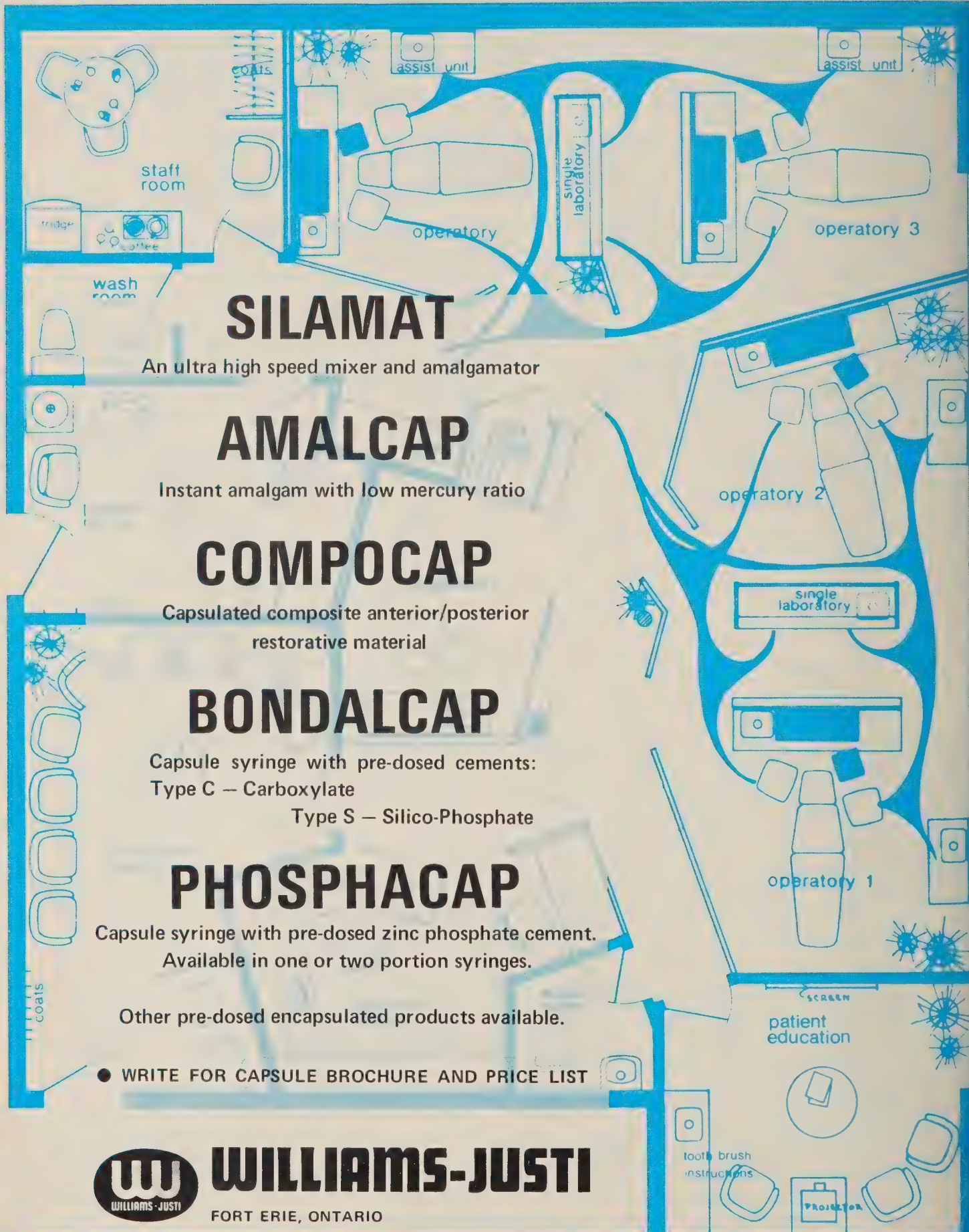
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Gilbert Hervé Deschênes

Le 29 juillet dernier, Gilbert Hervé Deschênes, vice-doyen à la Faculté de médecine dentaire de l'Université de Montréal, mourait subitement à Québec.

Hervé Deschênes est né à Price, Qué., en 1915. Après avoir obtenu le baccalauréat ès arts en 1938, il poursuivit ses études en théologie au Séminaire de Rimouski jusqu'en 1941 quand il s'inscrit à la Faculté de chirurgie dentaire de l'Université de Montréal. Dès la fin de ses études dentaires jusqu'à son licenciement en mars 1947, Hervé s'engage dans le corps dentaire de l'Armée Canadienne.

De 1947 à la fin de sa vie, il se consacre à la fonction de professeur à la Faculté de la médecine dentaire de l'Universités de Montréal sauf pour des périodes des études qui l'amènent aux universités Columbia et Michigan.

En plus de sa fonction de professeur, il occupe la chaire de dentisterie opératoire en 1955, il est appelé à devenir secrétaire de la Faculté en 1964, et vice-doyen en 1971. Lorsque le Département de dentisterie de restauration a été créé en 1965, il en devient le premier directeur et conserve cette charge onéreuse jusqu'au dernier moment.

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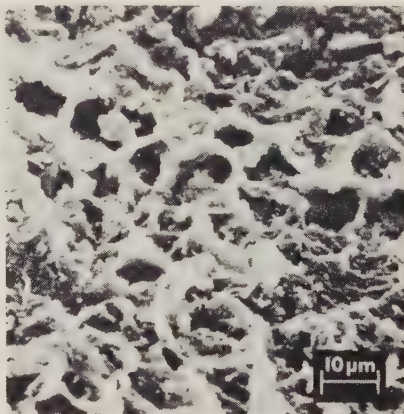
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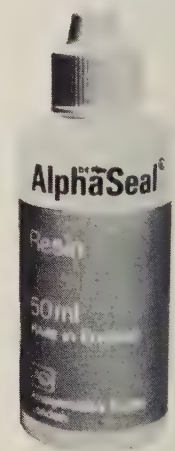


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Factors in the failure of cemented full crowns

S.I. Abdullah, BDS, DDS, MS

Jersey City, New Jersey

Hamdi Mohammed, DDS, MScD, PhD

Farmington, Connecticut

K. E. Thayer, DDS, MS

Iowa City, Iowa

The retention of cemented full crowns is inversely proportional to the degree of convergence of the preparation and the rate of curvature of its cross-section. To achieve maximum retention the walls of a crown preparation should be as nearly parallel as possible. The preparation should embrace a maximum of surface area and minimum curvature.

La retention des couronnes complètes cimentées est inversement proportionnelle au degré de convergence de la préparation et au taux de courbure de sa coupe transversale. Une retention maximale exige que les parois de la préparation d'une couronne soient parallèles autant que possible. La préparation doit épouser une surface maximale et une courbure minimale.

It has been traditionally accepted that the retention of a restoration depends on two major factors: the precision of fit of the casting and the design of the preparation to receive the casting. Since the introduction of the lost wax method,¹ the precision of the casting has been thoroughly investigated.²⁻⁶ Relatively, the effect of the design of the preparation on the retention of the restoration has received little attention, however.

Factors which affect retention of the restoration include the parallelism of the axial walls, the diameter of the prepared tooth, and the occlusal-gingival length. Johnston⁷ suggested that the preparation walls should be within five to seven degrees from the parallel. Lorey and Myers⁸ found that the full cast crown has greater retention than the three quarter crown due to the larger surface area. Lewis and Owen⁹ analyzed the retention of the full cast crown mathematically and concluded that long axial walls and minimal taper are necessary for high retention.

The objective of this study was to determine the effect of taper, surface area and rate of curvature of the preparation on the retention of gold castings.

Materials and methods

Six machined stainless steel dies were used. All dies were 6 mm high and were divided into two groups according to their diameters. Three of the dies had a diameter of 6 mm at the base to represent the bicuspid teeth. The other three dies were 10 mm in diameter at the base to represent molar teeth. Each group of dies was subdivided into three units according to the angle of convergence. Two, 8 and 20 degree angles of convergence from the parallel were used. Each die was joined to a threaded root portion. The dies used are shown in Figure 1. It should be noted that the rate of curvature of the small dies is higher than that of the large dies.

An aluminum base with tapered ledges was constructed for each die. The top of the ledge was of the same diameter as the gingival border of the corresponding group of dies. The bottom of the ledge was 1 mm in diameter greater than that of the gingival of the die as shown in Figures 2 and 3.

Wax patterns were mechanically fabricated using the pour-press moulding technique.³ In this technique the molten wax is poured in a pattern former; then pressure is applied on the die. The pattern former consisted of a shallow brass cylinder in which the internal diameter was 7 mm for the small dies and 11 mm for the large dies. Since the brass cylinders were 1 mm in diameter greater than the corresponding dies, the resulting wax patterns were 0.5 mm thick at the gingival margin. Four grooves in the end of the wax former allowed the excess wax to escape as the pattern was formed. The grooves extended from the end of the cylinder to within 0.5 mm of the die margin. Two handles at the top of the cylinder provided leverage for pressure on the wax.



Fig 1 The six different dies used in the study.

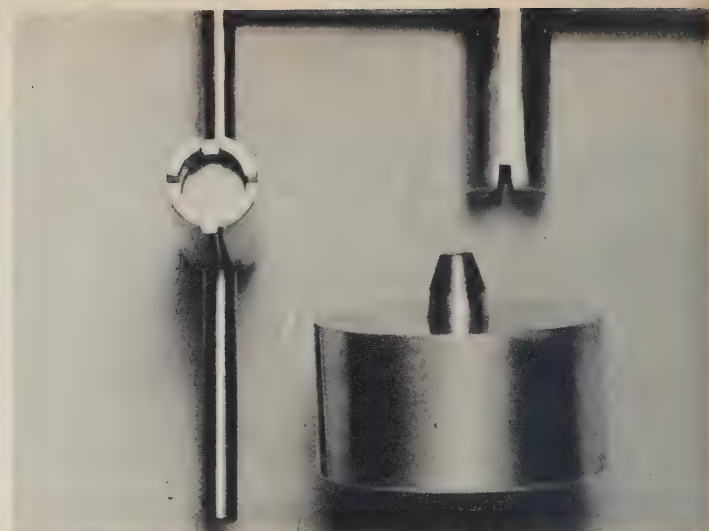


Fig 2 One die in position on the aluminum base and two views of the mechanical former.

The tapered ledge on the aluminum base served to position the wax former concentric to the die as shown in Figure 3. Such an arrangement resulted in uniform wax patterns. The cooled wax patterns were removed from the wax former by a threaded plunger as shown in Figure 3. The plunger position allowed 1 mm of wax over the occlusal surface of the die. The occlusal thickness of the wax pattern was further standardized by an acrylic index constructed for each group of dies.

In order to minimize distortion of the wax patterns, high fusing hard inlay wax was used. After the pattern was inspected, the root of the die was inserted into the aluminum base which held the die and the pattern in a vertical position. This assembly was placed on the base of a dental surveyor. A segment of ten gauge round wax moulded in the form of a "U" was lightly attached to a flat metal plate suspended vertically from the surveyor arm. The length of the loop was 18 mm for the large patterns and 14 mm for the small patterns. The distance between the ends of the loop was adjusted to coincide with the diameter of the corresponding wax pattern, that is 11 mm for the large patterns and 7 mm for the small ones. With the aid of a surveyor, the ends of the U-shaped loop were positioned at the occlusal surface of the pattern with its highest point over the centre of the pattern. This was done to secure an equal distribution of the tensile force on the casting during later testing procedures. A small amount of molten wax was used to attach the ends of the loop to the pattern.

A metal sprue was attached to the highest point of the loop and this joint was flared. The sprue was inserted into the crucible former and coated with inlay wax to correspond to the thickest part of the pattern and to facilitate easy removal of the sprue without affecting the adjacent investment. The length of the sprue was adequate to place the gingival margin of the pattern within one quarter inch from the end of the ring.

The wax patterns were vacuum invested using a controlled water-added investment of 50 Gm investment to 15 ml

water and adding 1.35 ml control water five minutes after the start of the mix. A 900°F burnout temperature for one hour and centrifugal casting were used. The castings were made in type C gold.

Each casting was vented with a 1.4 mm diameter hole on the occlusal surface before cementing on the steel die with a standardized mix of zinc phosphate cement. A ratio of 1.1 Gm powder to 0.55 ml liquid was used for the cement. The size and mixing time for each increment of powder were also standardized.

The internal surface of the casting and the external surface of the die were carefully coated with a thin layer of the mixed cement and the castings were seated on the dies with finger pressure. The root of the die was then inserted into the canal of the aluminum base to maintain the cemented parts in a vertical position. A 15 lb static load was then applied in a vertical direction for 30 minutes. The cemented crowns were left to stand at room temperature for 24 hours before testing for retention.

Twenty castings were made for each die. Each casting was tested once before and once after cementation.

A tensile testing machine with a maximum load capacity of 500 lb was used. A metal block was designed to attach to the testing machine and tapped to accept the threaded root of the die. A chain with a swivel link to act as a universal joint was designed to attach the loop of the casting to the dial portion of the testing machine, as shown in Figure 4.

Prior to placing the assembly in the testing machine, all excess cement was removed from the casting and the die. The assembly was then attached to the tensile testing machine and the load required to break the cement joint between the casting and the die was recorded.

After each test the die was thoroughly cleaned of any attached cement fragments by means of an ultrasonic cleaner with detergent for a period of 90 seconds. The next casting was then cemented to the die and the process repeated until the 20 castings for each die had been cemented and tested.

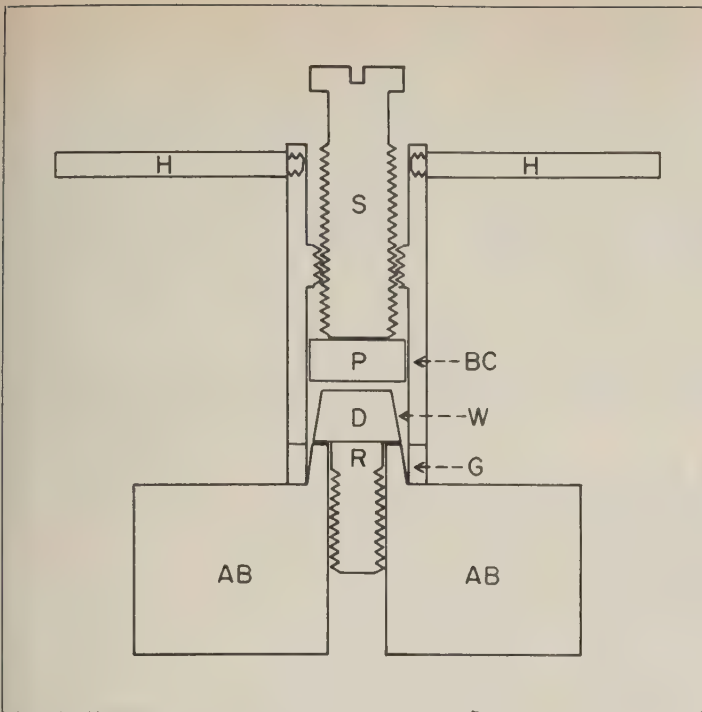


Fig 3 Schematic representation of the die, the base and the mechanical wax former in working position. AB, aluminum base; H, handle; S, screw; P, plunger; D, die; R, root; W, wax; BC, brass cylinder; G, groove.

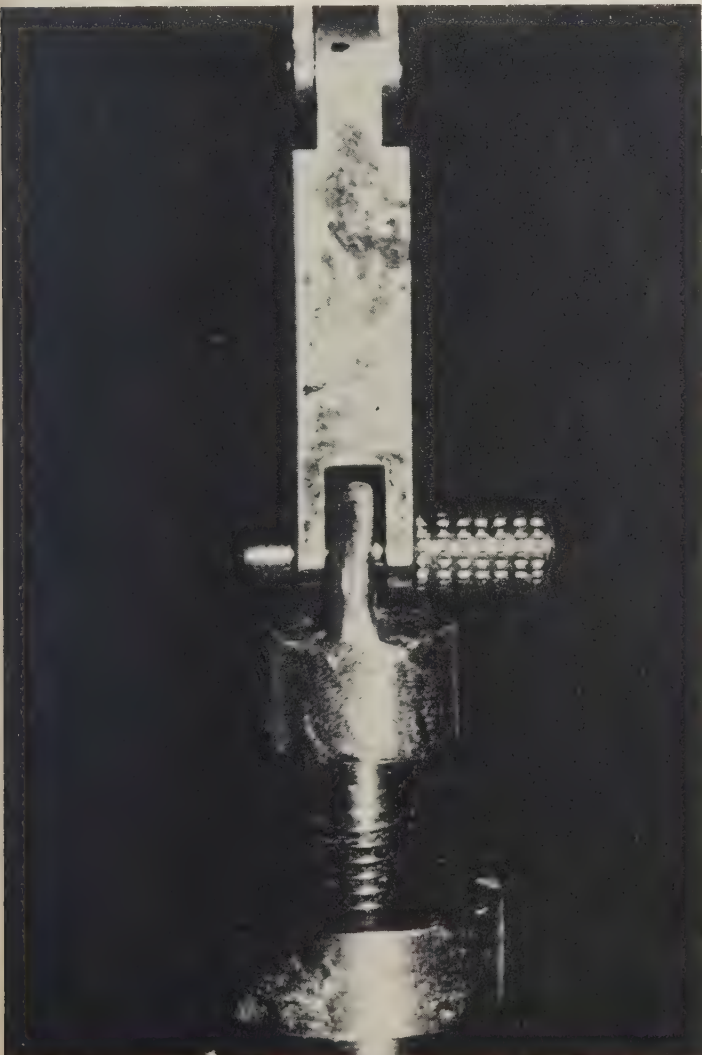


Fig 4 Close-up view of the cemented parts assembled in the tensile testing machine.

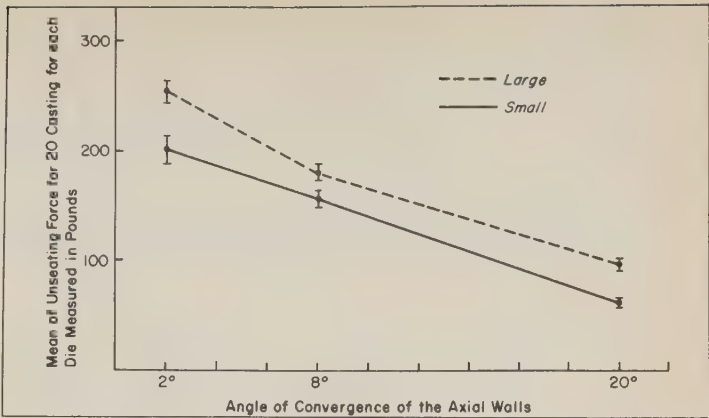


Fig 5 Means of large and small dies with three different angles of convergence of the axial walls. The intervals indicate ± 2.8609 standard error of the mean.

Results

The effect of angle of convergence and diameter on the mean load required to displace the crowns before and after cementation is shown in Table 1. It should be noted that within a given group of crowns the mean load decreased with increased angle of convergence. When the two groups are compared to one another at a given angle of convergence, it becomes evident that the load needed to displace the larger crowns was greater than that for the smaller crowns.

In order to express the retention of the cemented crowns in terms of stress rather than load to understand the failure mechanism, the surface areas of the dies were calculated. The retention was then computed by dividing the load by the surface area to yield the stress. The shear stress component will become apparent if the retention is not only dependent on surface area, but also on the rate of curvature of the preparation.

The mean stress, standard deviations and standard errors of the mean were calculated for the two groups of dies as depicted in Tables 2 and 3 and summarized in Figure 5. It is evident that the retention decreased with area as well as with increasing angle of convergence. Statistical analysis (Table 4) showed that both the angle of convergence and the surface area of the preparation had a significant (99 per cent level) effect on retention. Table 4 also showed the absence of area-angle interaction.

Discussion

Although three degrees of tapering were used in this study, the 2 and 20 degree dies represent the extremes while the 8 degree die approaches the average clinical preparation.¹⁰

The absence of area-angle interaction, shown in Table 4, indicated that the difference between large and small dies was of about the same magnitude at each angle of convergence tested. In other words, there is no dependence between the effect of surface area and that of angle of convergence. Accordingly, each of the two factors dealt with in this study may be discussed separately.

Effect of angle of convergence and radius on retention

Table 1

Diameter mm	Angle of convergence	Mean load of displacement (lb)	
		Before cementation	After cementation
10	2°	2.95	254.55
	8°	1.45	180.00
	20°	0.75	96.25
6	2°	2.1	201.15
	8°	1.6	157.80
	20°	0.7	60.35

Effect of degree of convergence on retention for large dies

Table 2

Angle of convergence	Surface area in ²	Retention (lb/in ²)		
		Mean	Standard deviation	Standard error of mean
2°	0.3913	650.52	42.89	9.7
8°	0.3507	513.26	28.04	6.3
20°	0.2903	331.55	23.10	5.2

Effect of degree of convergence on retention for small dies

Table 3

Angle of convergence	Surface area in ²	Retention (lb/in ²)		
		Mean	Standard deviation	Standard error of mean
2°	0.1584	1,269.88	53.53	12.0
8°	0.1532	1,029.35	32.43	7.3
20°	0.1249	483.18	19.18	4.3

Analysis of the data by ANOVA (analysis of variance)

Table 4

Source	df	SS	MS	F
Area	1	41,440.833	41,440.833	32.310**
Angle	2	453,982.200	226,991.100	176.979**
SxA (Interaction)	2	4,891.267	2,445.633	1.906 NS
Error (with cell)	114	146,215.000	1,282.587	
Total	119	646,529.300		

df: degrees of freedom

SS: sum of the squares

MS: mean squares

F: values to be compared with F table distribution

**: highly significant at 0.01

NS: not significant

The degree of retention with increasing convergence may be due to the decrease of friction.

The decrease in retention with variation in surface area is more difficult to explain, however. Although our data may be supported by the findings of Jorgensen¹¹ and Kaufman et al.,¹² we cannot easily account for the alterations in stress (lb/in²) when changing the area of the die *per se*. Increasing the diameter from 6 mm for the small dies to 10 mm for the large ones changes not only the surface area of the die but also the rate of curvature of its cross section. The higher retention of the large dies may therefore be attributed to their decreased curvature rather than their increased surface area. The rate of curvature is important only when the failure mechanism includes a shear component rather than being pure tensile in nature.

Conclusions

The experimental evidence furnished in this study shows that the retention of cemented full cast crowns is inversely proportional to the degree of convergence of the preparation, as well as to the rate of curvature of its cross section. Accordingly, a retentive preparation should have walls as nearly parallel as possible, with the largest possible surface area, and the smallest rate of curvature.

Further, the failure of cemented crowns is the result of a complex process involving both tensile and shear components.

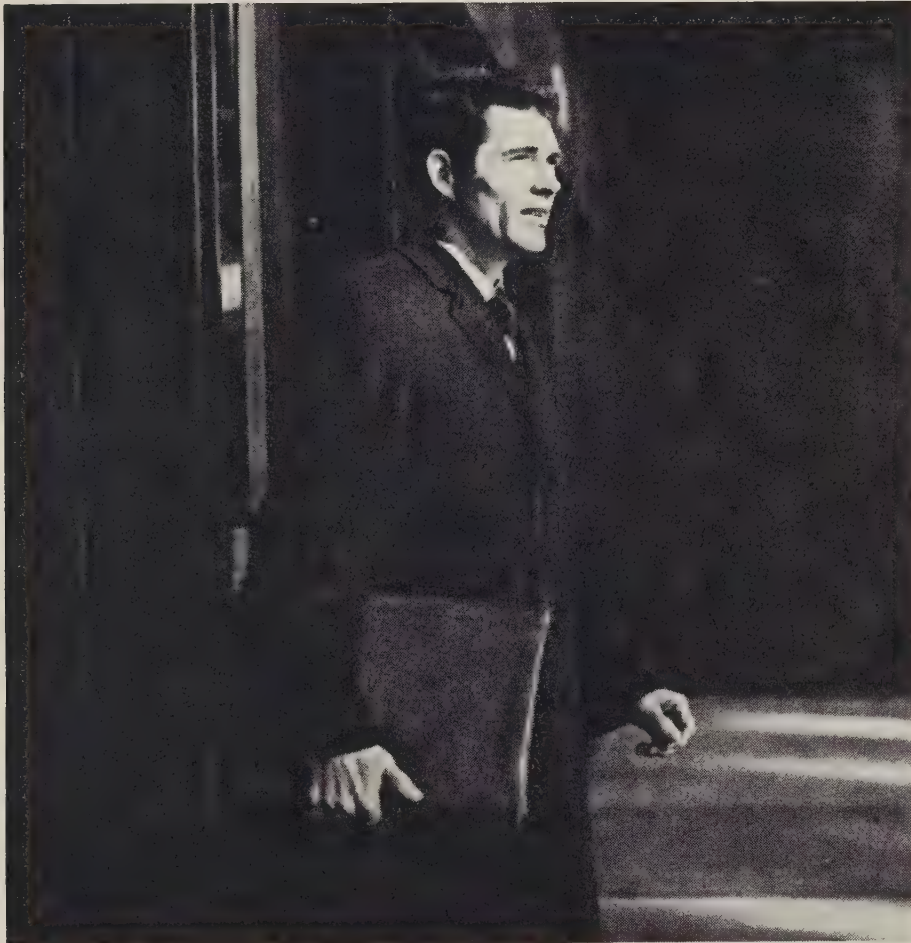
Dr. Abdullah is associate professor of fixed prosthodontics, College of Medicine and Dentistry of New Jersey, Jersey City.

Dr. Mohammed is associate professor of general dentistry, University of Connecticut School of Dental Medicine, Farmington.

Dr. Thayer is professor and chairman of fixed prosthodontics, University of Iowa.

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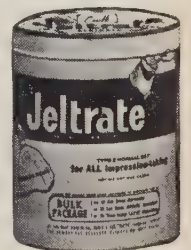
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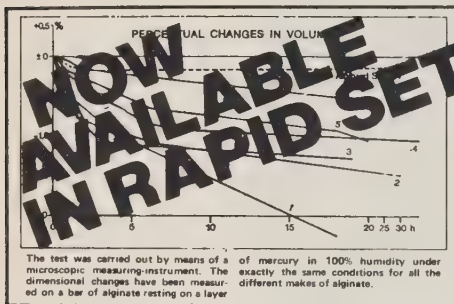
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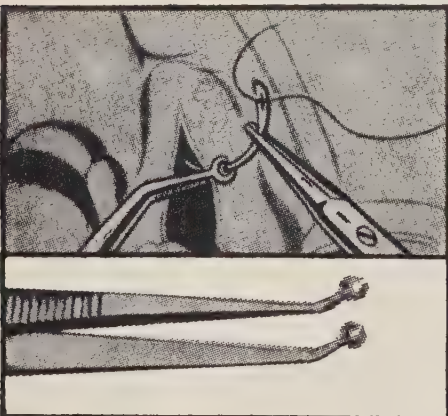


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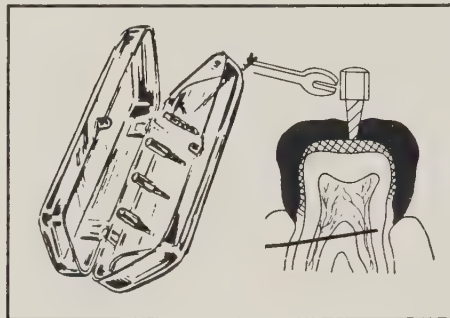
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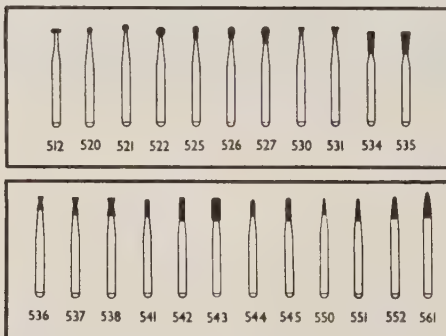
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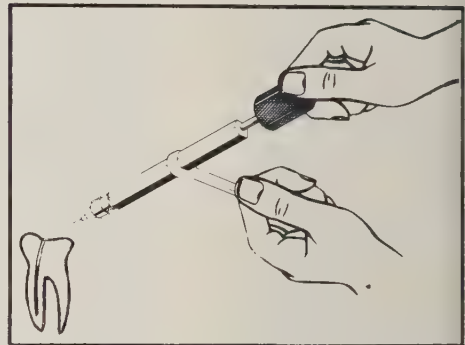


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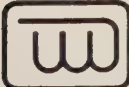
The kit includes 30 disposable, self attaching, sterile needles in 5 sizes to match the last size of file or reamer used. Also a kit of P.C.A. Root Canal Sealer is supplied, which is non-toxic, radio-opaque, insoluble but absorbable, slow setting, and expands on setting thereby creating a positive seal. Available from WEIL.



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The oblique lateral radiographic projection in dental practice

H. G. Poyton, FDS, FRCD(C)
S.M. Fireman, DDS, MScD
Toronto

The oblique lateral radiographic projection can be used to great advantage by general dental practitioners and specialists.

Known also as the 5" x 7" or the lateral oblique projection, we prefer the designation "oblique lateral" since it is a lateral view (the head being basically in the lateral position) taken obliquely, and because the film used is not always 5 x 7 inches large.

Though it is an extra-oral view, it can be taken very satisfactorily with a conventional dental x-ray apparatus. Certain anatomical factors influence the ease with which good results can be achieved: a v-shaped mandible and a long neck simplify the procedure; on the other hand, a u-shaped mandible, a short neck and thick shoulders can increase the difficulties.

This projection has the following advantages:

1. One picture covers a large area and shows the lower border of the mandible.
2. It can show the ramus up to the neck of the condyle, or the body as far forward as the symphysis.
3. The teeth of one side of the posterior maxilla and the corresponding teeth of the mandible can be shown on one film.
4. The inferior dental canal is clearly visible.
5. It is useful in seeking the presence of unerupted teeth.
6. It can be used in children.
7. It can be used in the investigation of impacted third molars.
8. It is useful in cases of pain, inability to open, and uncontrollable gagging.
9. The radiation exposure is low.

10. It can be used as part of a full-mouth survey using four exposures only.

The disadvantages inherent in this procedure are:

1. The detail is inferior to that obtained with intra-oral views.
2. There are various superimpositions such as the vertebrae, the hyoid bone, the opposite side of the mandible, and the soft tissues of the neck and oral cavity.

Technique

The underlying principle in this technique is that, if a true lateral view is taken, both sides of the mandible are superimposed (Fig 1,A), but if the x-ray beam is at an oblique angle the side of the mandible in contact with the cassette is visualized unobstructed (Fig 1,B). In actual practice there are three basic positions of the head relative to the film and four different beam angles, but these are modified according to the particular patient.

Various x-ray films may be employed, the commonest being medium-speed, screen film, size 5 x 7 in. used in a cassette containing high definition intensifying screens. A non-screen film, size 5 x 8 in. can also be utilized; this gives better detail than the screen film, but requires considerably more exposure, and the contrast may be less acceptable. An occlusal film, size 2½ x 3 in. can also be employed but this has the disadvantage of covering a smaller area.

There are no hard and fast rules governing this technique, but for ease of description the following basic views will be

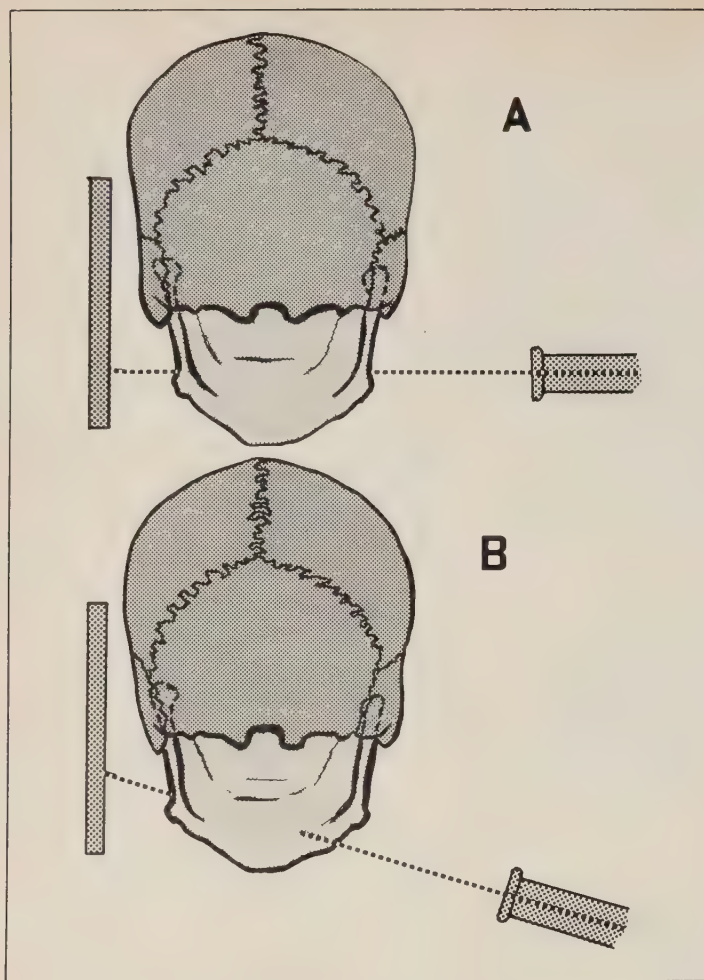


Fig 1 A, the side of the mandible closer to the x-ray tube is superimposed on the side under investigation. B, by directing the beam obliquely the superimposition is removed.

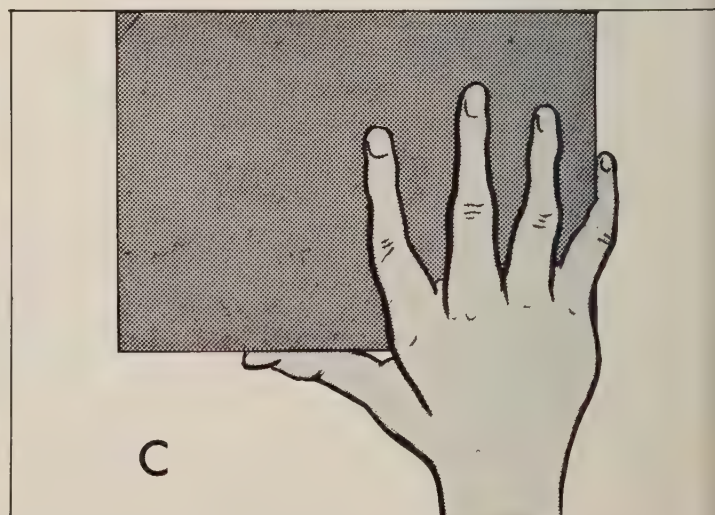
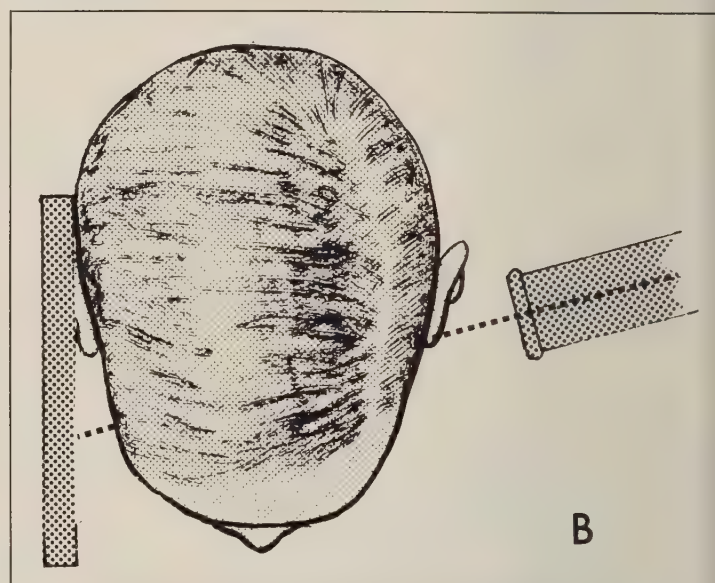
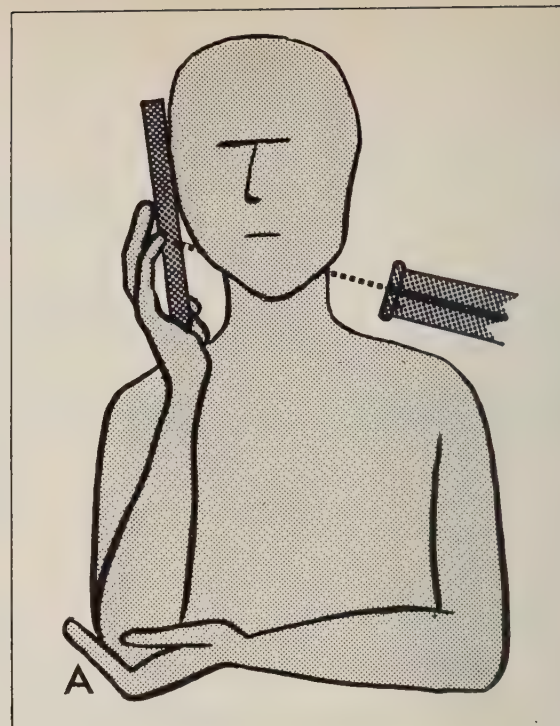


Fig 3 A, B and C — Technique for the mandibular view with the patient in the upright position.

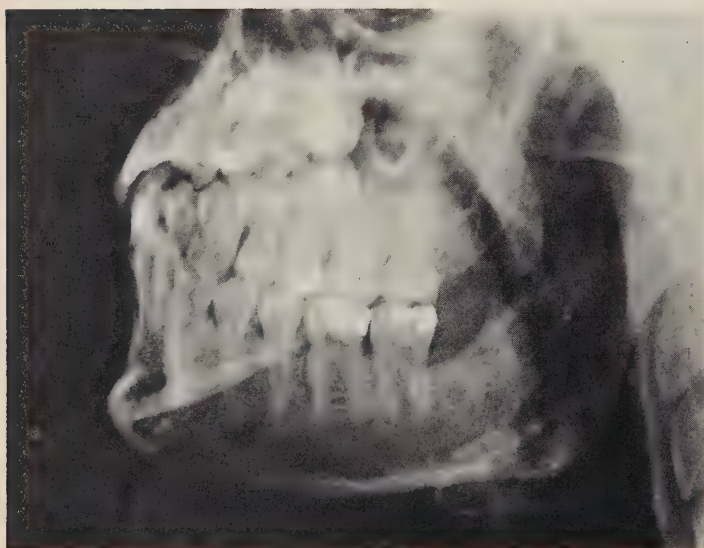


Fig 2 The molar view, showing the mandibular molars and part of the ramus.



Fig 4 Technique for the mandibular molar view utilizing the back of the dental chair and the head rest support.

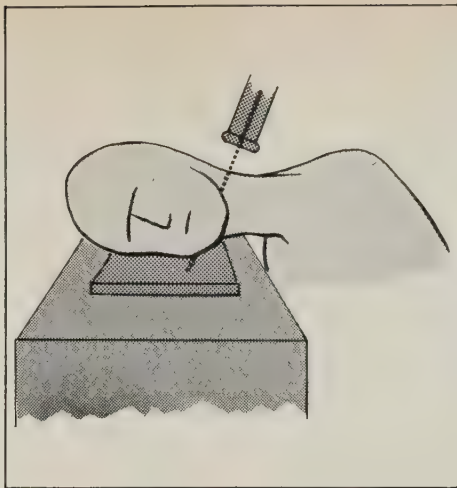


Fig 5 Technique for the mandibular molar view utilizing a table.

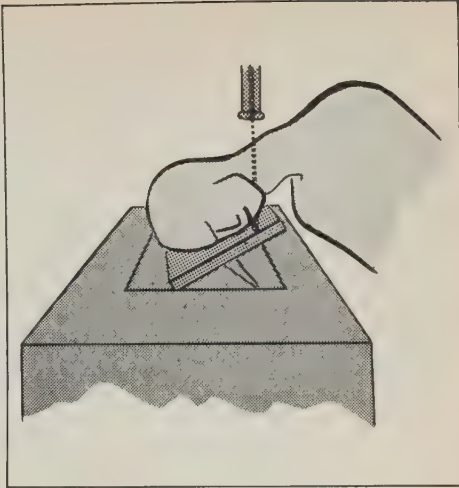


Fig 6 Technique for the mandibular molar view utilizing an angle board.

described for the mandibular molar region, posterior maxillary and mandibular teeth, anterior mandible and ramus.

Mandibular molar region — This project is the one most frequently used, and it shows the three mandibular molars, the bone adjacent to these teeth including the lower border of the mandible, the angle of the mandible, part of the ramus, and the inferior dental canal (Fig 2).

To obtain this view the cassette, with the long axis horizontal, is held almost parallel to the sagittal plane, with the angle diverging posteriorly. The central ray of the x-ray beam should enter one inch below the angle of the mandible and should be directed at the second molar.

There are many ways of achieving the required result, the commonest being the normal sitting position (Fig 3), utilization of the head rest (Fig 4), use of a table (Fig 5) or use of an angle board (Fig 6).

The undesirable superimpositions can be minimized by careful alignment of the beam and correct positioning of the head to suit the individual patient. To avoid superimposition of the vertebrae the chin should be markedly protruded, and superimposition of the hyoid bone can be avoided by slightly rotating the head or varying the angulation of the beam by a few degrees.

This view is often required in the investigation of mandibular third molars and it is then advisable to modify the method so that the x-ray beam strikes the tooth at or close to 90 degrees (Fig 7).

Posterior maxillary mandibular teeth — This modification has maximum use when seeking the presence of unerupted teeth. It can also be used as a component of a four-radiograph full-mouth survey.

Taken correctly, it will show the maxillary and mandibular bicusps and molars, the surrounding bone, the lower border of the mandible in this area, and the angle of the mandible (Fig 8).

The technique differs from the previous projection in that there are changes in the film position and the angulation of

the beam. The cassette is placed parallel to the sagittal plane and then rotated approximately 30 degrees until the nose touches the surface of the cassette. The centre ray enters one inch below and one inch behind the angle of the mandible and is directed toward the occlusal plane in the second bicuspid-first molar region (Fig 9).

Anterior mandible — This variation is useful in cases of fracture of the anterior mandible and when investigating lesions in the bone of the anterior mandible (Fig 10).

To obtain this view the head is rotated relative to the cassette still more than in the previous view. With most patients, 60 degrees is adequate and in this position the nose is turned to the side. The beam is centred through the sternomastoid muscle at the level of the angle of the mandible and is directed toward the area under examination.

Ramus — This projection will show the angle of the mandible, the whole of the ramus, the neck and part of the head of the condyle, and part of the coronoid process (Fig 11).

The cassette is held parallel to the sagittal plane with the long axis vertical. The centre ray enters approximately one inch below the angle of the mandible and is directed toward the upper part of the ramus. This necessitates a steeper vertical angle between the beam and the cassette.

Exposure factors

The exposure factors will vary according to the apparatus and the patient; therefore, the following data are approximate only:

Blue brand film and intensifying screens: 65 kV, 10 mA, ½ second, focus-film distance 16 in.

Non-screen film: 65 kV, 10 mA, 2 seconds focus-film distance 16 in.

Occlusal film: 65 kV, 10 mA, 1 second, focus-film distance 12 in.

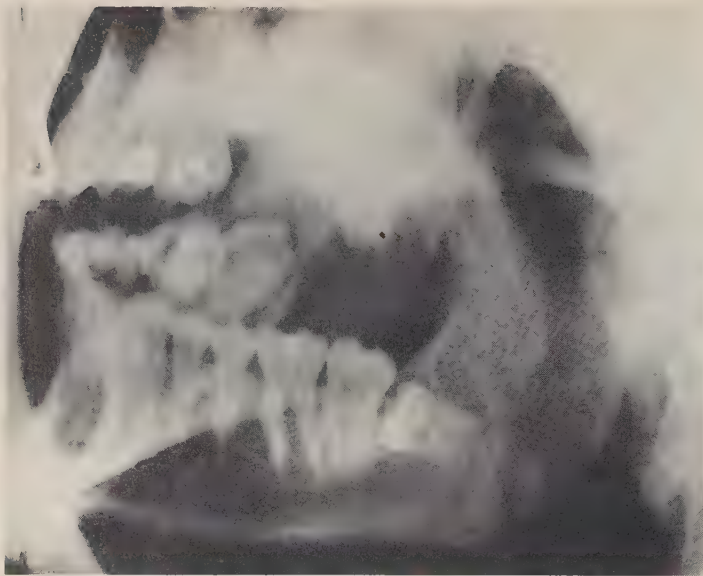


Fig 7 Modified view for the third molar.



Fig 8 Modified view showing the posterior mandible and maxilla.

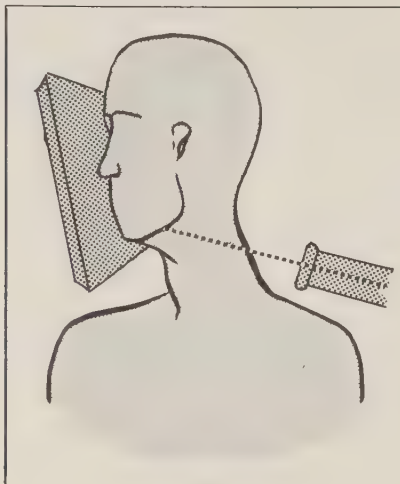


Fig 9 Technique for the posterior mandible and maxilla.



Fig 11 View showing the ramus, neck of the condyle and coronoid process.

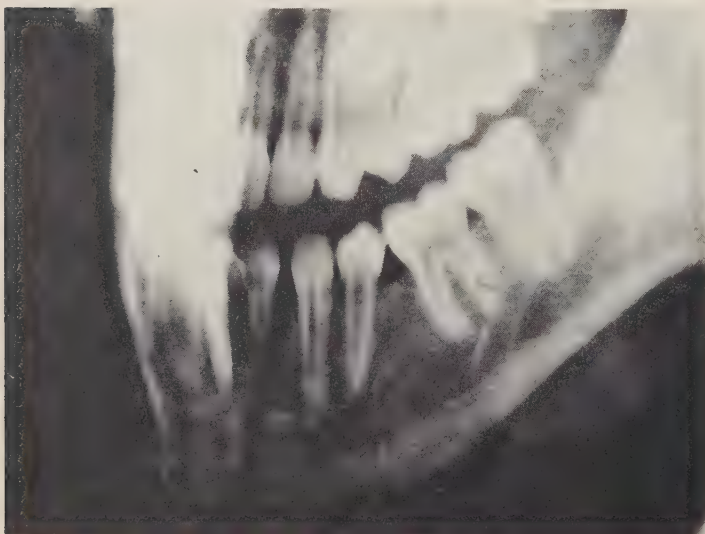


Fig 10 View showing the anterior mandible.

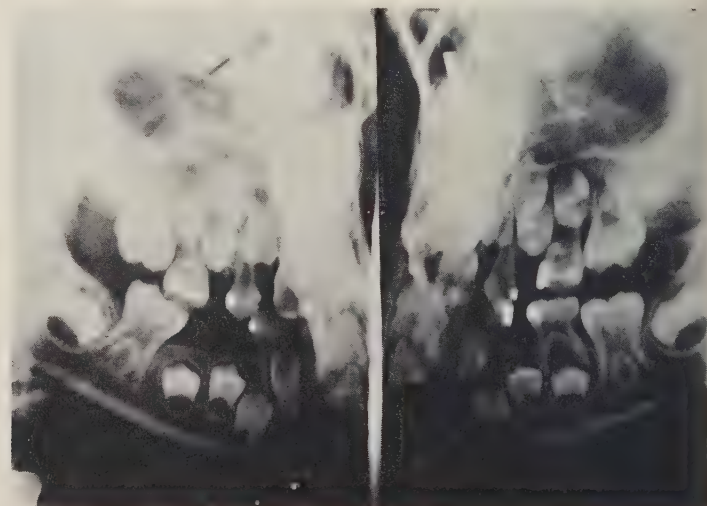


Fig 12 The method of showing the posterior teeth of both sides of the mandible and maxilla on one 5 x 7 inch film.

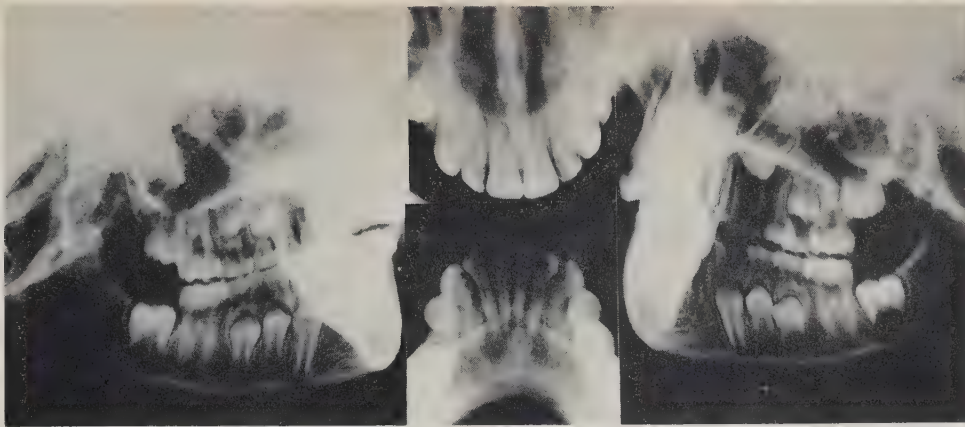


Fig 13 A full-mouth survey accomplished with four exposures.

Composite views

There are two useful composite views, both of which utilize the method showing the posterior teeth of the maxilla and mandible.

The first permits visualization of all the posterior teeth on one 5 x 7 in. film (Fig 12). This is achieved by using a sheet of lead 1 mm thick to cover half the cassette. One side of the posterior maxilla and mandible is taken with the head rotated and the nose resting on the lead. The lead is then moved to cover the exposed side of the cassette, the head is rotated in the opposite direction and the procedure is repeated on the other side.

A full-mouth survey can be taken with four exposures by

using two oblique lateral views, an anterior occlusal view of the maxilla and an anterior occlusal view of the mandible (Fig 13).

Summary

The oblique lateral radiographic projection is described, its uses delineated, the variations enumerated, and the different techniques outlined.

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Dr. Fireman is a member of the Department of Radiology, Faculty of Dentistry, University of Toronto.





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References:

1. Dental Pulp Response to a New Composite Resin, M. D. Jendresen, L. S. Hansen, and K. D. McClatchen, University of California, San Francisco, Journal of Dental Research, Feb. 1973, V.52 Special Issue Program and Abstracts, 51st session IADR, Washington, D.C.
2. Toxicity, report available upon request.
3. Clinical Comparison of EXACT in Anterior and Posterior Restorations (first-year results of a three-year study), report available upon request.
4. The Greater Milwaukee Dental Bulletin, February, 1973.

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Application of non-precious alloys to crown and bridge procedures

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J. E. Grasso, DDS, MS
Farmington, Connecticut
S. I. Abdullah, BDS, DDS, MS
Jersey City, New Jersey

The mechanical properties of three non-precious alloys were compared with those of type III gold to ascertain their potential for crown and bridge procedures. Two of the alloys (Dentillium CB, an iron base alloy, and Howmedica III, a nickel base alloy) possessed considerably less ductility than gold; but that of the third alloy (an experimental cobalt base alloy) was superior to that of gold. The nickel and the cobalt base alloys had flow characteristics similar to those of gold. The lesser flow qualities of Dentillium CB may be attributable to its high iron content.

Application d'alliages non-précieus aux procédés utilisés pour les couronnes et les ponts. Les propriétés mécaniques de trois alliages non-précieus furent comparés à celles de l'or de type III, afin d'établir leurs possibilités relatives aux procédés utilisés pour les couronnes et les ponts. Deux de ces alliages (le Dentillium CB, un alliage à base de fer et l'Howmedica III, un alliage à base de nickel) présentent beaucoup moins de malléabilité que l'or, alors qu'un troisième alliage (un alliage expérimental à base de cobalt) se révéla supérieur à l'or. Les caractéristiques d'écoulement des alliages à base de nickel et de cobalt se montrèrent semblables à celles de l'or. Le taux d'écoulement moindre du Dentillium CB peut être attribué à son contenu élevé en fer.

The two alloy systems adapted for casting dental restorations may be classified as precious and non-precious. The most commonly used precious metals are gold alloys. The most commonly used non-precious metals are the cobalt-chromium alloys.

Gold alloys have been widely applied in crown and bridge procedures. Base-metal alloys are most commonly used for the processing of partial dentures. Such particular application of the two types of alloys has been largely determined by their mechanical properties and the price of the material involved.

Gold alloys are characterized by lower melting range, lower hardness, lower yield strength, lower modulus of elasticity, and higher ductility, when compared to cobalt-chromium alloys. These properties make the melting of a gold alloy, its finishing, occlusal adjustment, and burnishing, much easier than when the appliance is processed from cobalt-chromium alloys. Hence, the desirability of gold alloys for crown and bridge prosthesis.

On the other hand, the selection of base-metal alloys for partial denture frames is based not so much on desirable mechanical properties as on price. The greatest shortcoming of these alloys is their lack of ductility. Despite the fact that partial denture clasps have been breaking since 1935, the use of Co-Cr alloys for that purpose and the complaints of practising dentists have continued to this day.¹

Extensive research efforts have sought to improve the ductility of Co-Cr alloys.²⁻⁷ Though meant to produce a more ductile alloy for partial denture applications, these

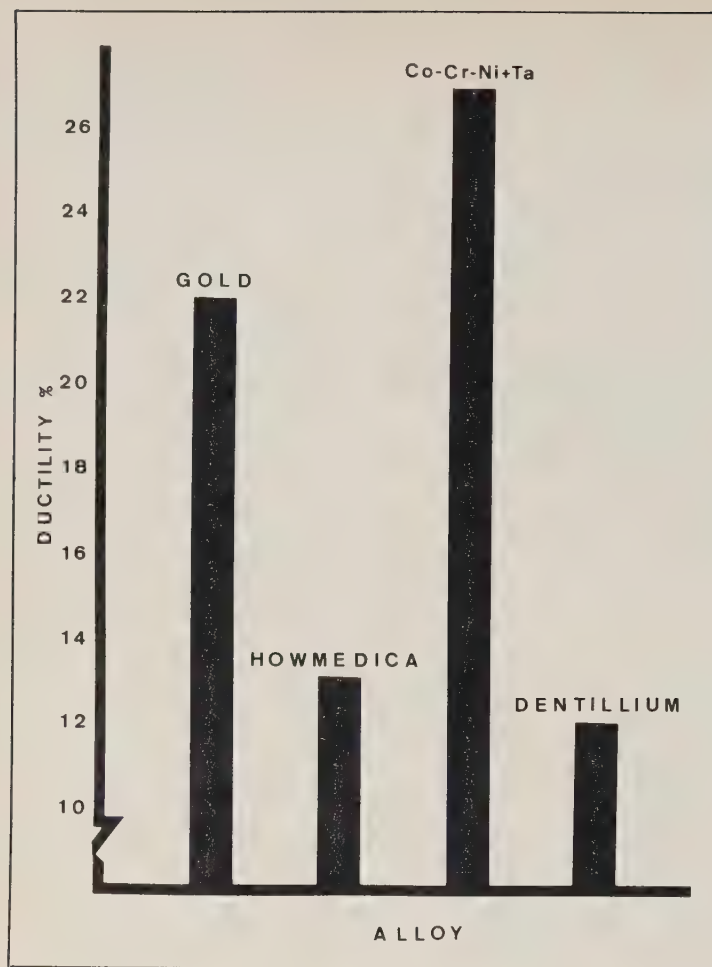


Fig 1 Ductility of alloys tested.

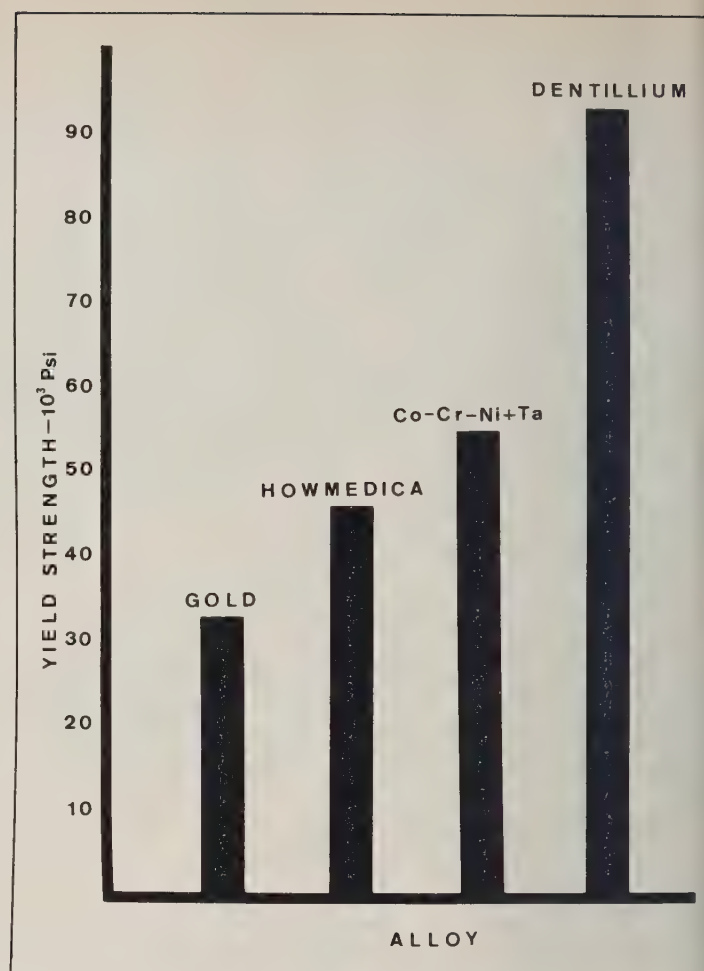


Fig 2 Yield strength (0.2 per cent) of alloys tested.

efforts also resulted in alloys with mechanical properties similar to those of gold alloys used for crown and bridge applications.⁵ Further, the rising cost of gold alloys has induced the introduction of various non-precious alloys that are being marketed for crown and bridge applications.

In order to accept an alloy as a substitute for type III gold alloys, the former must demonstrate mechanical properties similar to those of the latter. Appropriate melting range, hardness, strength, elasticity and ductility are not the only pertinent properties, however. Additional properties such as flow of the liquid metal to produce thin castings, the availability of compatible commercial solders, accuracy of fit of the casting, and burnishing capacity of the new alloys must also be considered. The purpose of this investigation was to determine the mechanical properties of the new alloys in terms of their burnish capacity, flow, soldering qualities, and their ability to reproduce actual bridge dimensions accurately.

Materials and methods

A gold alloy (Williams Harmony Hard Type III, Williams Gold Refining Co., Buffalo, N.Y.), an iron-base alloy (Dentillium CB, Dentillium Products, Milwaukee, Wisconsin), a nickel-base alloy (Howmedica III, How-

medica Inc., New York, N.Y.), and an experimental cobalt-base alloy (38 Co - 29 Cr - 29 Ni - 4 Ta) were tested. All castings were made in a commercial dental laboratory. One dental technician made all the castings after he was directed as to the technique. The recommendations of the manufacturer were followed in the preparation of all tensile specimens.

In order to determine the tensile properties of each material, four tensile bars were prepared from each alloy. The dimensions of the tensile bar were those of American Dental Association Specification No. 14.⁸ The tensile bars were sprued horizontally such that the metal feeding was unilateral.⁵

The test for flow, $\frac{3}{4}$ inch long and $\frac{3}{8}$ inch wide sheets of wax of varying thicknesses were used. Thicknesses of 0.028, 0.022, 0.018, 0.014 and 0.012 inch were tested. These thicknesses correspond to gauges 22, 24, 26, 28 and 30, respectively.

One sheet of each thickness (Kerr Manufacturing Co., Division of Sybron Corp., Romulus, Michigan) was attached to a sprue base and invested. Four such assemblies were made for each alloy.

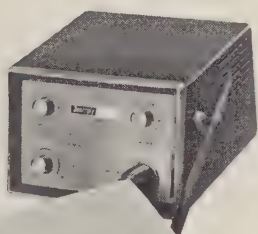
To test for dimensional accuracy, four replicates of one actual three-unit bridge extending from the first bicuspid to



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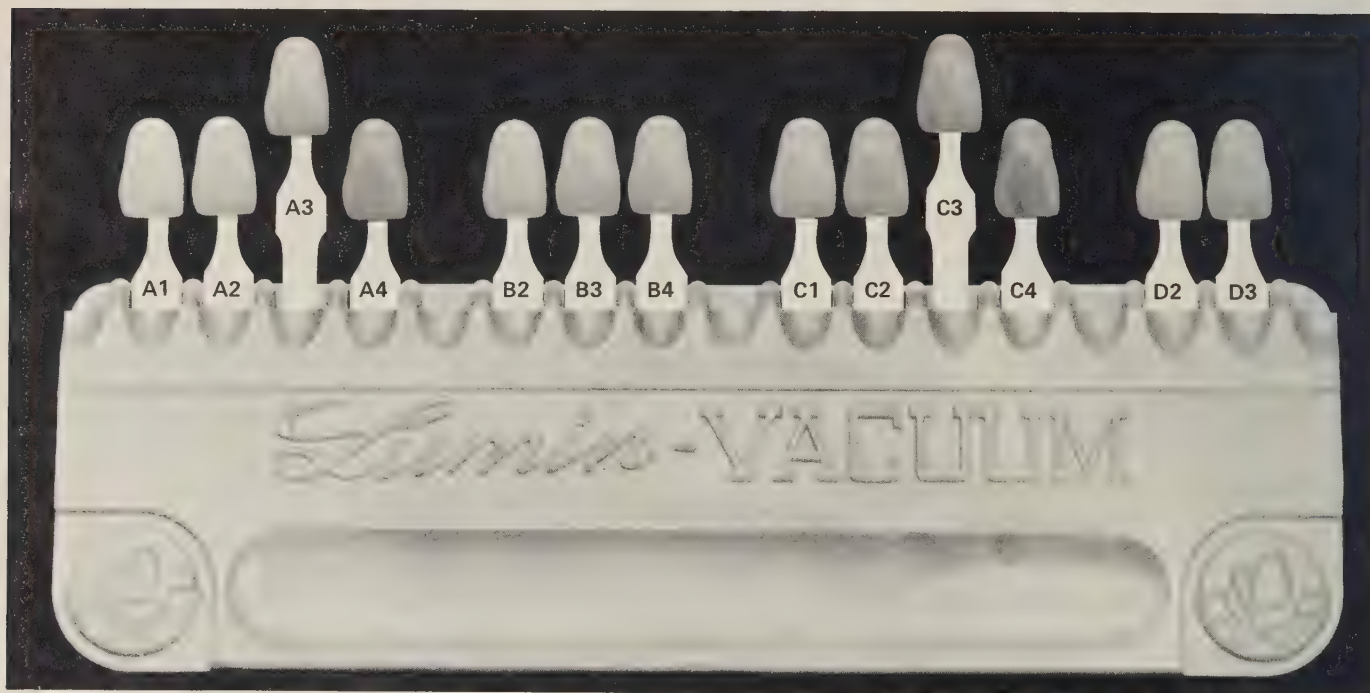
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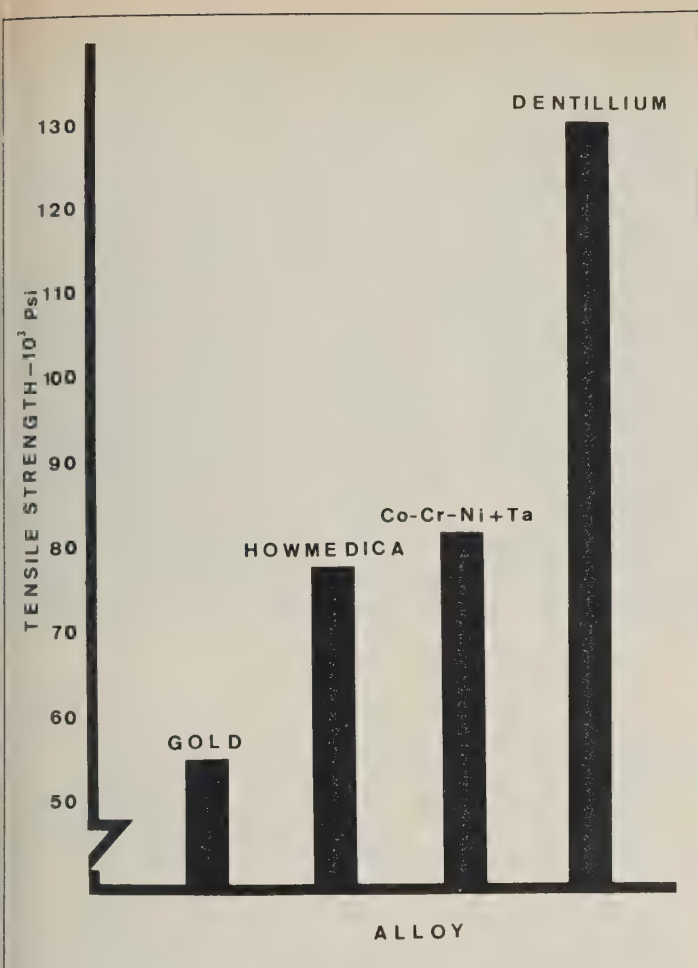


Fig 3 Ultimate tensile strength of alloys tested.

the first molar were cast from each alloy. Veneer facings were prepared on all teeth. The thickness of the veneer backing was controlled by using a coping press (Dentsply International, York, Pennsylvania). A 28 gauge backing was used in the bicuspid and a 26 gauge backing was used on the molar.

The flow test specimens as well as those for accuracy of fit were invested in a phosphate bonded investment meant for metal ceramic application (Ceramigold Investment, Whip-mix Corp., Louisville, Kentucky). Hygroscopic expansion by immersing in a 100°F water bath was used only for the bridges. Except for the gold alloy, moulds were heated to 1,600°F in one hour, then soaked at that temperature for 20 minutes before casting. The moulds for gold castings were heated to 1,600°F in one hour and then transferred to a tempering furnace at 1,250°F for one hour. Deviations from the manufacturers' suggested techniques were made to assure consistency in the size of the mould cavities.

All castings were made by a centrifugal casting machine supplied with an induction furnace. The casting temperatures were: 1,900°F for gold, 2,850°F for Dentillium CB, 2,625°F for Howmedica III, and 2,725°F for the experimental alloy.

Soldering quality was tested by soldering two full crowns of each non-precious alloy by three commercial solders. The solders were Dentillium high-temperature solder, Howmedica No. 800, and Microbond 2000 by Howmedica.

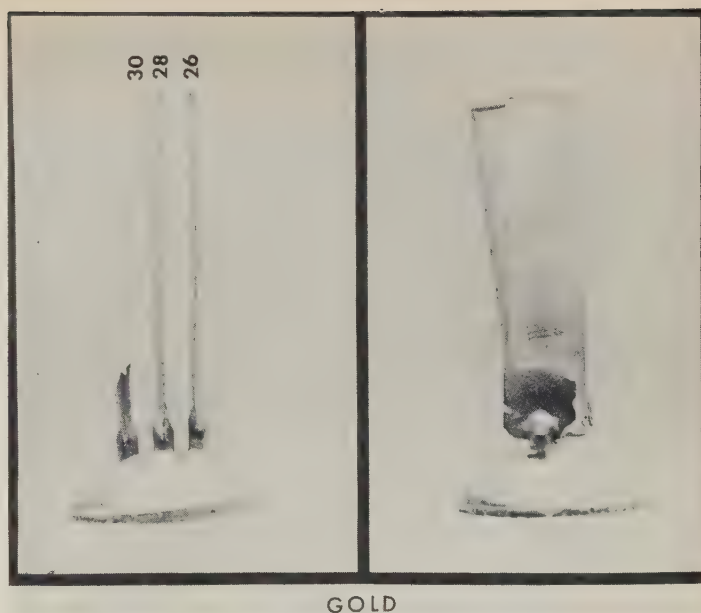


Fig 4 Flow of the gold alloy tested.

The tensile properties of each alloy were determined by using an Instron universal testing machine and a strain gauge extensometer (Instron Corporation, Canton, Mass.). The results are the average of four readings.

Results

Tensile properties — Ductility of the various alloys tested is shown in Figure 1. In a decreasing order the ductilities of the alloys were: experimental (27 per cent), gold (23 per cent), Howmedica (13 per cent) and Dentillium (12 per cent).

The yield strength of the various alloys followed an order opposite to that of ductility as depicted in Figure 2. The only exception to that order was the experimental alloy which, in addition to being more ductile than the gold alloy, also possessed higher yield strength (55×10^3 psi vs. 33×10^3 psi). The results of testing for the ultimate tensile strength followed the same order of yield strength with Dentillium displaying the highest ultimate tensile strength (131×10^3 psi), as shown in Figure 3. The differences in the mechanical properties of the various alloys were all significant at the 95 per cent confidence level except for the difference in ductility between Howmedica III and Dentillium CB which was not significant.

Casting and flow qualities — The ability of the gold alloy to flow was used as a standard of comparison. The gold alloy was capable of flowing to fill moulds of 22, 24, 26 and 28 gauge completely. However, it failed to fill the 30 gauge mould as shown in Figure 4. Needless to say, the gold bridges did cast fully.

The casting qualities of Dentillium CB are depicted in Figure 5. It is evident that gauges 26 and 28 were not cast fully. One Dentillium bridge is shown in Figure 6. The veneer backing of the first bicuspid (28 gauge) was not fully



Fig 5 Flow of Dentillium CB.

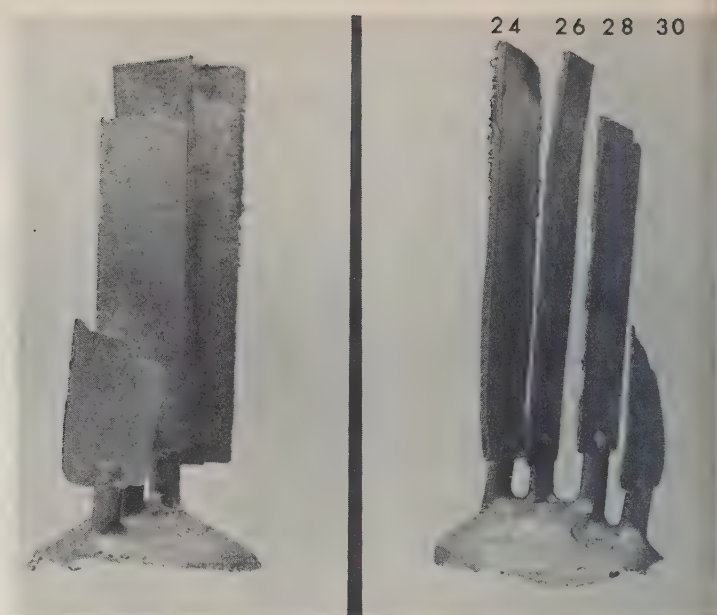


Fig 7 Flow of Howmedica III.

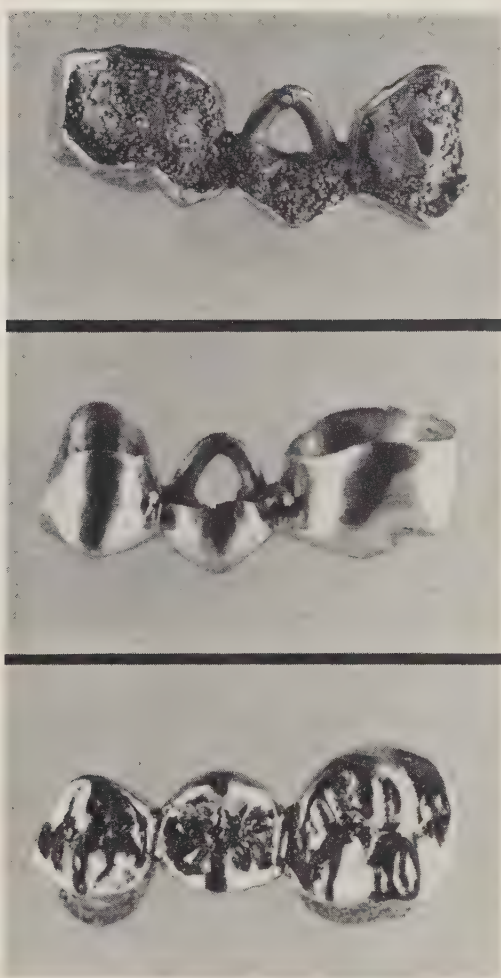


Fig 6 Bridge cast in Dentillium CB.

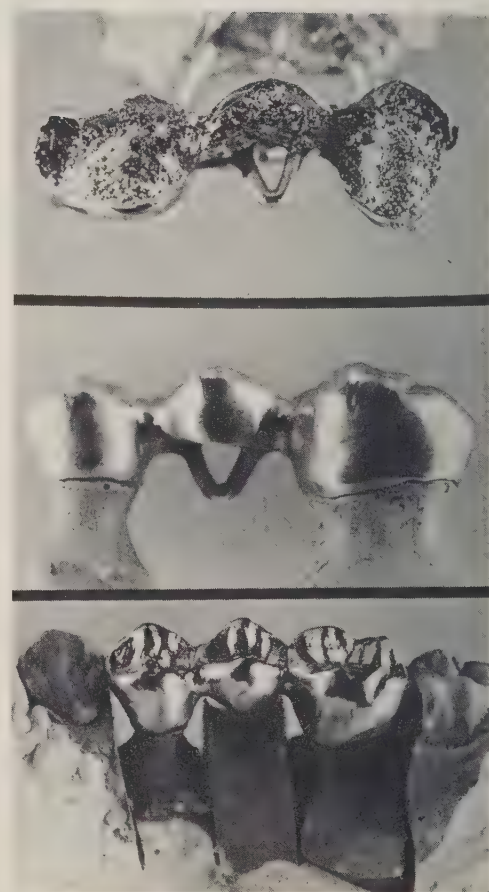


Fig 8 Bridge cast in Howmedica III.

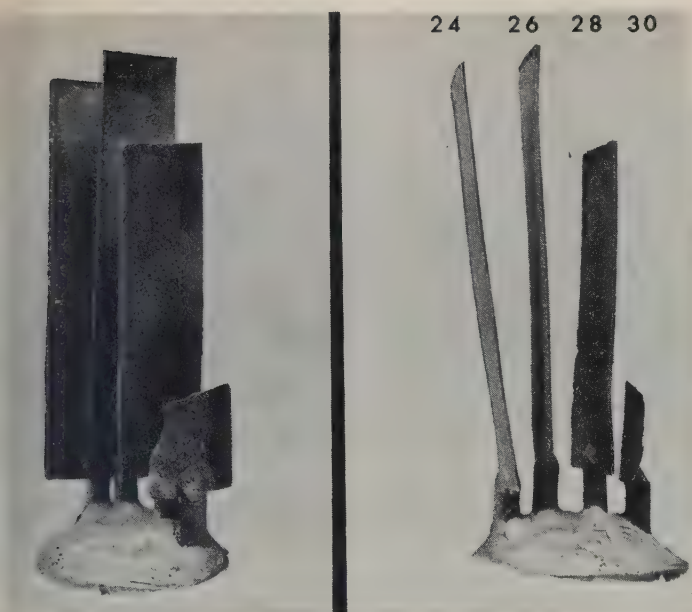


Fig 9 Flow of the experimental alloy. The 28 gauge specimen completely filled its mould but a piece was cut from it prior to photography in order to perform metallographic studies.

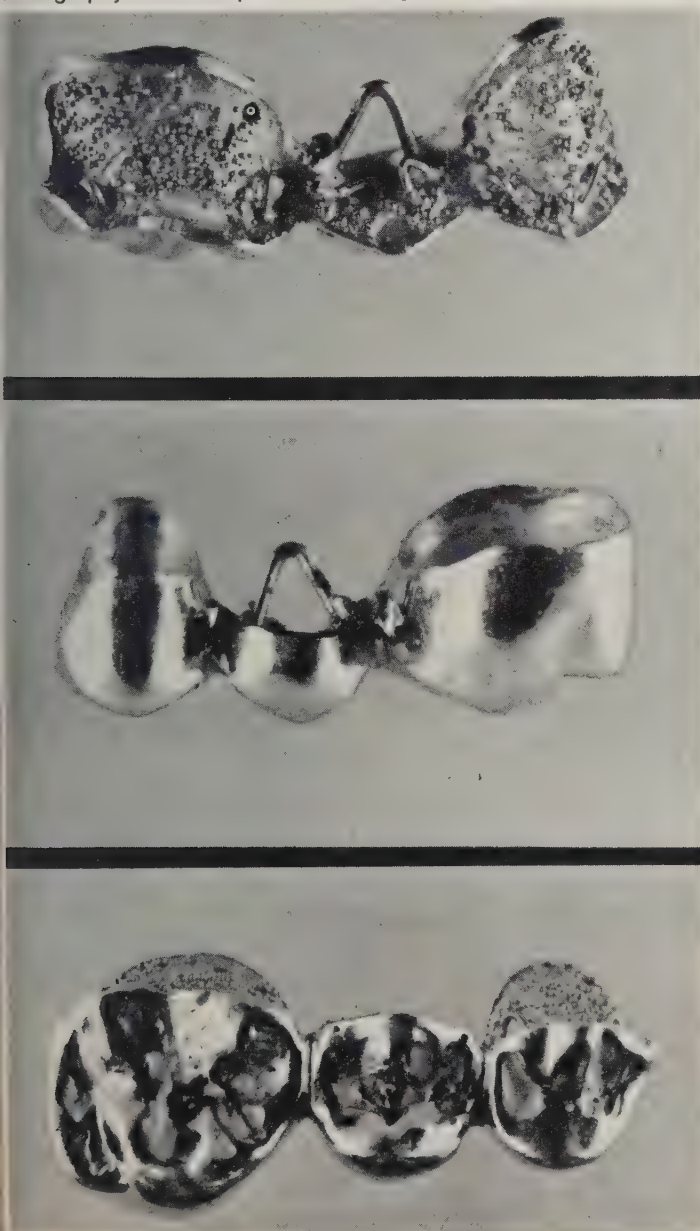


Fig 10 Bridge cast in the experimental alloy.

cast while that of the first molar (26 gauge) was fully cast. Casting of the three additional bridges in Dentillium showed no evidence of improved casting qualities.

The test results for Howmedica III are shown in Figures 7 and 8. The alloy flowed to fill the 28 gauge mould and fully cast the backings of veneer crowns.

The casting qualities of the experimental alloy are depicted in Figures 9 and 10. The flow of the alloy permitted complete casting of the 28 gauge sheets and the veneer backings.

All flow test specimens, including gold, showed porosity holes, perhaps due to lack of venting of these large castings.

Dimensional accuracy — Accuracy of fit is a function of the investment and the burnout technique rather than of the coefficient of thermal expansion of the various alloys. Although the latter varies slightly from one alloy to another, especially in alloys of almost equal melting ranges, such variation is of little importance when compared to variations resulting from the type of investment, investing procedure and burnout temperature and technique.

It has been alleged that base metal alloys shrink excessively during cooling and subsequently do not completely cover their dies. The dimensional accuracy of the alloys was therefore qualitatively determined by fitting the bridges to their abutments on the cast as shown in Figure 8. All alloys tested did fit their dies satisfactorily. Contrary to the flow test specimens, none of the bridges cast showed any evidence of porosity holes.

Soldering qualities — Each of the three commercial solders tested was tried on all alloys. The flow of all solders to form a thin film between the crowns was satisfactory.

Discussion

An alloy for crown and bridge procedures differs from an alloy for partial denture applications in that the former must be susceptible to burnishing. This involves plastic bending and permanent deformation of the metal margins. Bending and elongation are functions of the yield strength and ductility. While the clinician's ability to bend a metal is inversely proportional to its yield strength, his ability to elongate the metal is directly proportional to the ductility of the metal. Briefly, low yield strength and high ductility are necessary for an alloy capable of being burnished.

As there have been no tests to determine burnish capacity and since type III gold is highly accepted by the dental profession, its yield strength (33×10^3 psi) and ductility (22 per cent) can be used as points of reference.

On the basis of ductility values, the suitability of the three base-metal alloys tested for application in crown and bridge procedures may be ranked as: experimental, Howmedica III, Dentillium. On the basis of yield strength values, the alloys may be ranked as: Howmedica, experimental, Dentillium.

The casting qualities of the alloys showed that both the nickel-base and the cobalt-base alloys possessed flow simi-



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lar to that of the gold alloy. The iron-base alloy had lesser flow qualities, however.

Although one technician made all the castings for the sake of consistency, our conclusions were based on data obtained under consistent and rigid experimental conditions. Our conclusions regarding burnishing qualities were based on yield strength and ductility values which coincided with the manufacturers' data. Our conclusions regarding casting qualities were drawn on the basis of whether the metal did or did not fit the mould. This may be subject to the technician's bias if he cast one specimen but not when four specimens were cast from each alloy.

Conclusions

The three non-precious alloys tested demonstrated mechanical properties that made them promising for crown and bridge procedures. The ductility of the two commercial alloys is substantially less than that of type III gold, however. Ductility of the experimental alloy exceeds that of the gold alloy.

The testing for flow showed that both Howmedica III and the experimental alloy have similar flow characteristics of the gold alloy. The lesser flow of Dentillium CB may stem from the fact that the major element in the alloy is iron.

This paper was presented at the 51st general meeting of the International Association of Dental Research, Washington, 1973.

Dr. Mohammed is associate professor and Dr. Grasso is assistant professor of general dentistry at the University of Connecticut School of Dental Medicine, Farmington, Connecticut 06032. Dr. Abdullah is associate professor of fixed prosthodontics, College of Medicine and Dentistry of New Jersey, Jersey City.

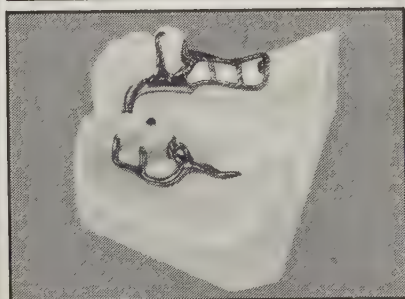
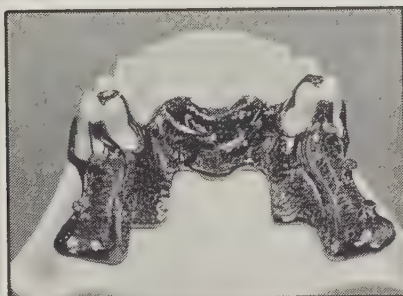
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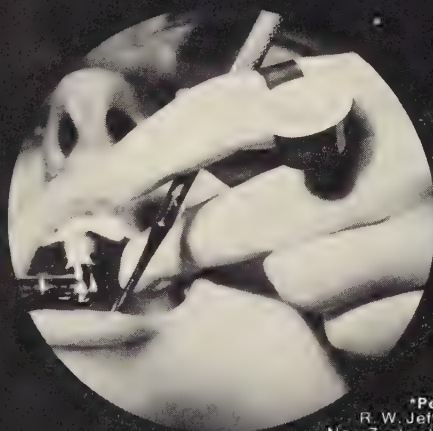
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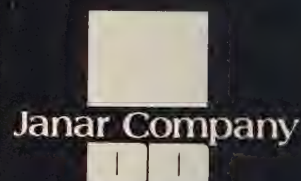


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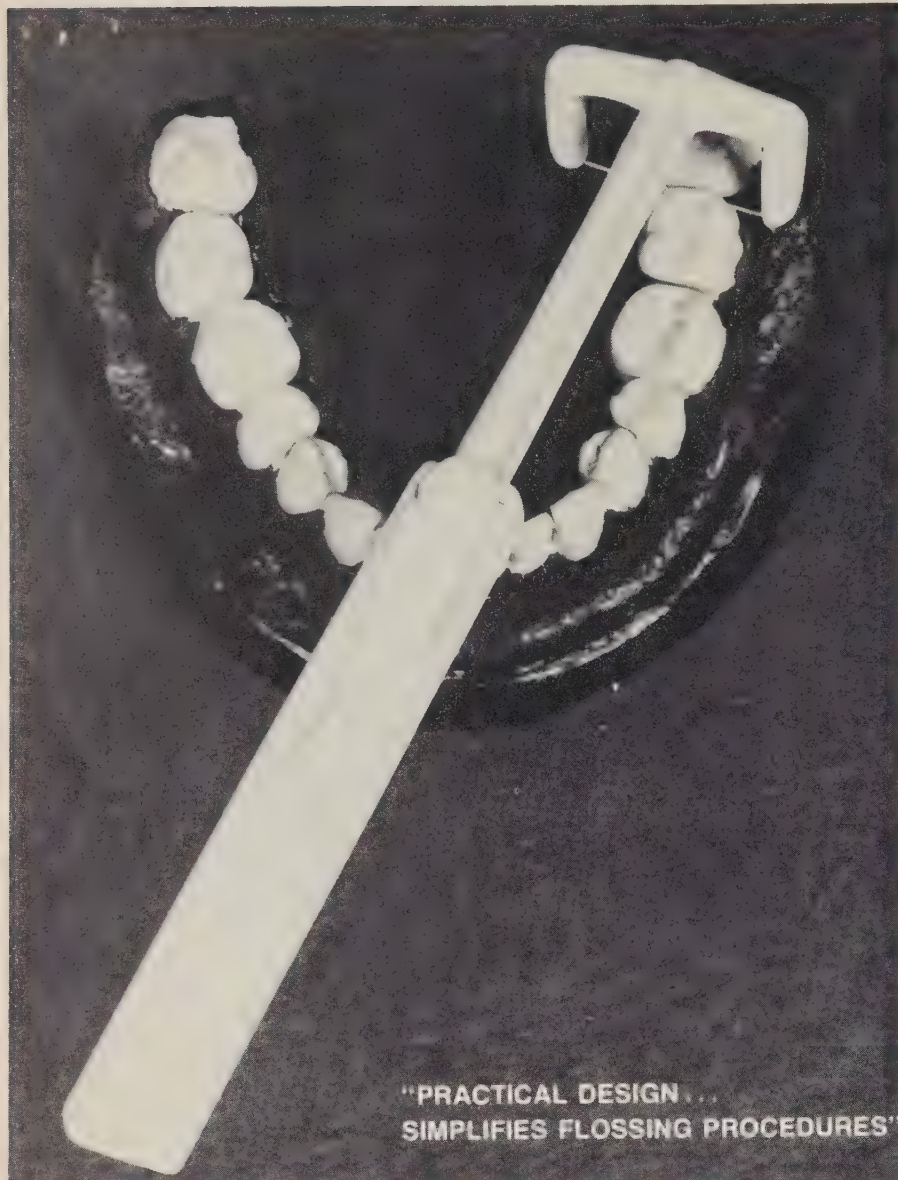
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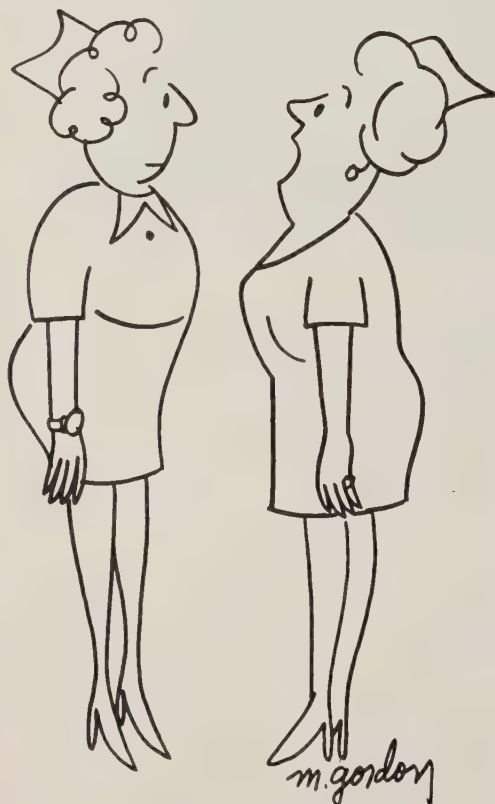
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ADVERTISERS' INDEX

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Denco	716
Dentsply International	696, 713, 735
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Inter-Unitek Canada Limited	715
Janar Co. Inc.	742
Kodak Canada Limited	745
Mo-dent Ltd.	736
The C.V. Mosby Company	717
Proctor & Gamble	695
Shofu Dental Corporation	711
Ticonium Company	741
The Upjohn Company of Canada	698, 699
Wand-X Corporation	746
Warner-Lambert (Canada) Ltd.	701
Weil Dental Supplies Limited	726
Whaledent Inc.	708
S.S. White Company	732
Williams Gold Refining Co. (Canada) Ltd.	718, 719

GENEROUS DONATIONS TO CFDE

The Canadian Fund for Dental Education reports that early results from its October campaign are most encouraging.

"As of November 15, dentists across the country have contributed \$27,500 and more gifts are coming in every day," according to Murray McDonald, the Fund's executive director.

"It is especially gratifying to note the increased size of contributions as well as the number of supporters. If the trend continues for the rest of the year, CFDE will certainly surpass its objective of \$35,000 in donations from the profession," said Mr. McDonald.

SEVERE DISCIPLINING CREATES FUROR IN ONTARIO

Four Ontario dentists have been penalized with one to six-month suspensions of licences (with partial remissions in some cases); plus \$1,000 fines, plus legal fees by the Royal College of Dental Surgeons of Ontario. The four were convicted of "infamous, disgraceful, or improper conduct" in permitting their dental assistants to do preventive dentistry including fluoride treatments, tooth polishing, oral hygiene instruction and taking impressions of teeth for study models. Apparent original source of some of the complaints to the College were hygienists, who are the only auxiliaries licensed in Ontario to perform these functions.

The Ontario Dental Association has refused to intervene with the Royal College to stop disciplining, although a number of local societies have requested the Association to act. President Mel Charendoff has told the societies that they are asking for something the Association cannot ask the College to do.

"The reason these dentists are breaking the law is because they desperately need qualified auxiliaries such as dental hygienists and we don't have them," he said. "It is a regrettable position for the Royal College to be in but one which is unavoidable because the law does exist."

Instead the Association has written the Minister of Health of the great urgency to resolve the situation quickly, asking him to outline by the end of November what plans the Ministry has to relieve the acute shortage of dental hygienists.

MARKET SUPPLEMENT APPROVED FOR ALBERTA FACULTY

The Board of Governors of the University of Alberta have approved a market supplement of \$5,000 for all staff members of the Faculty of Dentistry holding dental degrees including both full-time and part-time staff. Part-time staff will be prorated. The supplement is to be in effect from September 1, 1974 to June 30, 1975.

The controversy over obtaining a market supplement had resulted in the mass resignation of staff. To date five of the seven full-time have withdrawn their resignations, most of the part-time staff will continue and one full-time faculty member has allowed his resignation to stand.

DES DECISIONS DISCIPLINAIRES SUSCITENT DES REACTIONS EN ONTARIO

Quatre dentistes de l'Ontario viennent d'être suspendus par le Collège royal des chirurgiens-dentistes d'Ontario; ces suspensions varient entre un et six mois (avec des remises de peine partielles dans certains cas) et sont accompagnées d'amendes de \$1,000 et des frais de comparution. Ces quatre dentistes sont été trouvés coupables de "conduite déshonorante, condamnable et inconvenante" en permettant à leur assistante dentaire de prodiguer des soins de prévention y compris des applications de fluorure, des polissages de dents, des conseils d'hygiène et de prendre des empreintes pour des moulages d'étude. On croit que des hygiénistes dentaires, qui sont les seules auxiliaires légalement habilités en Ontario à remplir ces fonctions, sont à l'origine des plaintes qui ont été déposées au Collège.

L'Association dentaire d'Ontario a refusé d'intervenir auprès du Collège pour arrêter ces poursuites, quoique plusieurs sociétés l'avait sollicitée de le faire. Le président Mel Charendoff a fait part aux sociétés qu'elles demandaient des démarches incompatibles avec les objectifs de l'Association.

"Le motif qui porte les dentistes à transgresser la loi réside dans le fait qu'ils ont un besoin urgent de personnel qualifié, tel que les hygiénistes dentaires, et qu'il n'y en a pas", a déclaré le président de l'Association. "Le Collège royal est certes dans une situation difficile, mais il n'a pas le choix à cause des lois qui existent."

L'Association a donc écrit au ministre de la Santé pour lui souligner l'urgence de la situation en le priant de spécifier d'ici la fin de novembre quelles mesures son ministère compte prendre pour palier aux carences sérieuses en matière d'hygiénistes dentaires.

SOUSCRIPTIONS GENEREUSES AU F.C.E.D.

Le Fonds canadien pour l'enseignement dentaire rapporte que les premiers résultats de sa campagne d'octobre sont des plus encourageants.

Selon Murray McDonald, directeur du Fonds, "des dentistes de toutes les parties du pays ont versé \$27,500 et des souscriptions entrent tous les jours."

"Il fait plaisir de constater que les versements sont plus considérables de même que le nombre des souscripteurs. Le F.C.E.D. va certainement dépasser son objectif de \$35,000 si cette tendance se maintient."

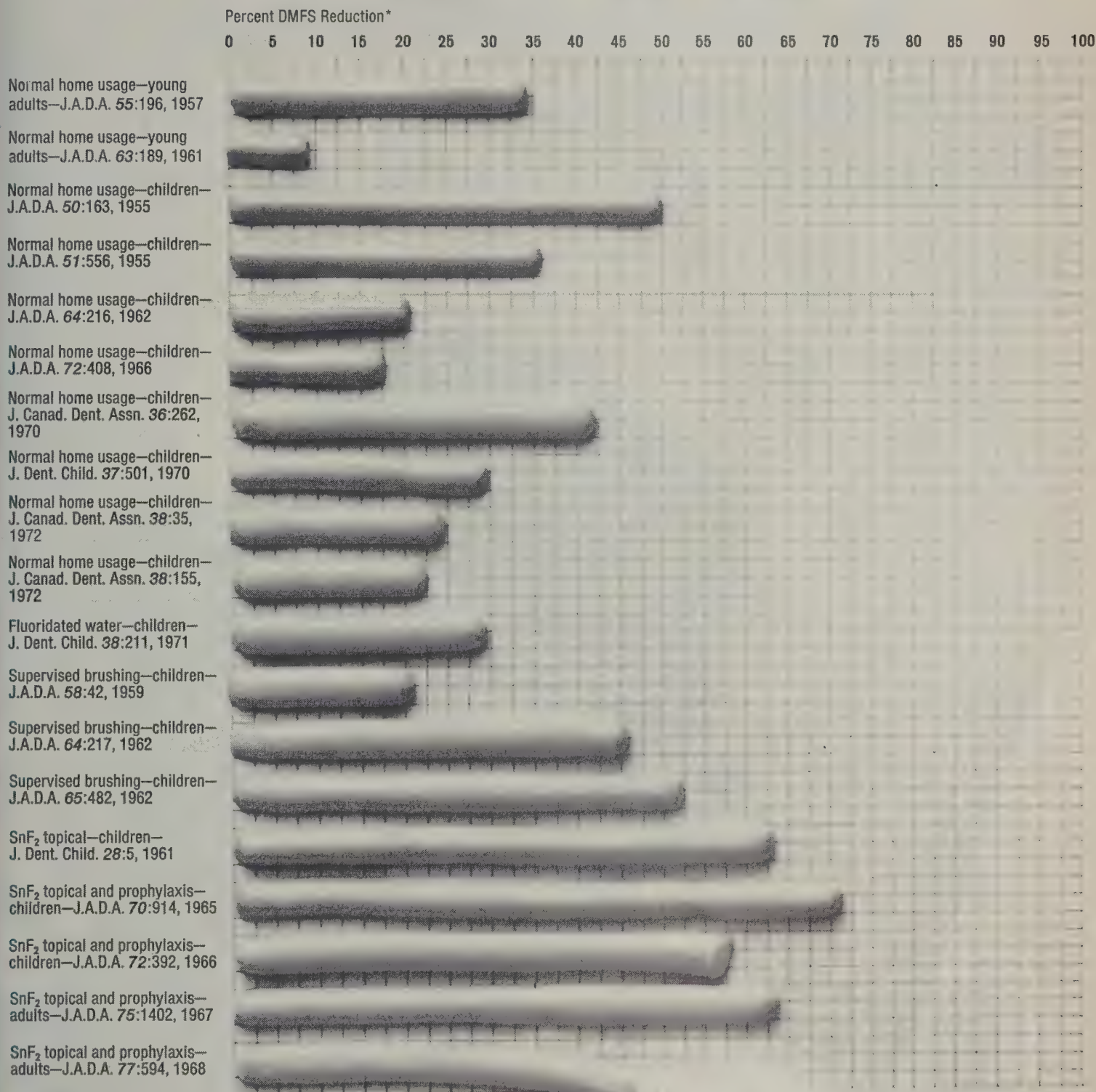
SUPPLEMENT DE REMUNERATION A LA FACULTE D'ALBERTA

Le Conseil des Gouverneurs de l'Université d'Alberta a voté un supplément de \$5,000 pour la rémunération du personnel enseignant de la Faculté de médecine dentaire; cette augmentation s'applique aux professeurs qui ont un diplôme de dentiste et qui travaillent à plein-temps et à temps partiel. La rémunération des professeurs à temps partiel est augmenté au pro rata des plein-temps. Cette augmentation prend effet à partir du 1er septembre 1974 et se continuera jusqu'au 1er juin 1975.

Cette controverse au sujet des salaires s'était manifestée par la démission du personnel. A date, cinq des sept plein-temps ont retiré leur démission; la plupart des temps partiels continuent leur enseignement et un plein-temps persiste dans sa décision de démissionner.

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JOURNAL

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Editorial

The calm pianist	755
------------------	-----

Special Features

Convention report	771
Abrasivity of dentifrices — Gau	785
Task Force Report on the future of the CDA	782

Regular Features

Dentistry in the news	757
Les actualités dentaires	767
Deaths	765
Annual Index, Volume 40	789
Index annuel, Volume 40	796

Classified advertising	799
------------------------	-----

Advertisers' index	804
--------------------	-----

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The Calm Pianist

The audience waited in anticipation as the orchestra tuned up. Suddenly, everyone saw in panic that the backstage curtain was in flames and began a rush to the exits. But one calm man walked to the piano — as he played, the audience, reassured, sank back in their seats — and perished in the following conflagration.
Paraphrase: David Bower, Ecologist

There are times when action is the only answer to a crisis. Canadian dentistry clearly recognized that the CDA must be strengthened in order to meet the profession's national responsibilities and appointed the CDA Task Force to suggest a reorganization so that the issues might be handled. The complete report will be published in this Journal over the next few months so that by the time of an extraordinary Board meeting in March all can have had time for study and reaction. But in the meantime, we must not allow the Task Force report to be a calm pianist lulling us into suicidal complacency.

No problems have been resolved yet. All decisions cannot be deferred until the last word of the debate has been recorded. One action which every Canadian dentist can take now is to be sure that in 1975 he or she is a full supporting CDA member, whether it be through the conjoint mechanism in most provinces or by voluntary subscription in others. This display of solidarity and determination to work together for a revitalized CDA is needed to strengthen the hands of those currently in office who will be called upon to make crucial decisions this spring. There can be no place for slackers or free-loaders who refuse to support their own national organization because of misguided parochial prejudices, miserly desire to avoid a small and tax deductible membership fee, or any other excuse. If it turns out in 1975 that there actually are some few dentists who fail to join with their confrères in forging this profession's future, we ask whether they should be allowed to enjoy the privileges won by the Association, or the respect and continued friendship of their confrères? One thing is certain — this is a poor time for listening to calm pianists. Let's stay on our feet and keep taking every action we can.

RMG



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General anesthetics

USE IN DENTAL OFFICES UNDER FIRE IN QUEBEC AND ALBERTA

Several deaths following the use of general anesthetics in dental offices have prompted major investigations in Quebec and Alberta.

The Quebec Order of Dentists issued a moratorium, effective November 1, preventing the use of general anesthetics in dental offices following the recent deaths of two dental patients in the Montreal area. A total of three Quebecers have died during the past year under the same circumstances.

A committee, comprised of two dentists, one physician, one anesthetist and one representative of the Quebec Ministry of Social Affairs, has been set up to investigate the problem and make specific recommendations.

Dr. Charles Gosselin, president of the Order of Dentists of Quebec, said that the Order has been concerned about the use of general anesthetics in offices where revival equipment is not available and the problem has been under study for some months now. He said the Order's governing body has drawn up a list of equipment which a dentist should have in order to use general anesthetics on his premises.

In announcing the moratorium to the press, Dr. Gosselin said the Quebec government must accept part of the responsibility for the three deaths because dentists are often unable to obtain hospital beds for their patients and are forced to administer general anesthetics in offices which sometimes lack emergency facilities. He added that the present moratorium would last until the

Minister of Social Affairs takes steps to ensure that dentists and their patients may be admitted to hospitals. The Order received approbation for this move from the College of Physicians and Surgeons of Quebec and the Association of Anesthesiologists.

Dr. Gosselin said that more than 35,000 cases of general anesthesia for dental purposes were performed this year in Montreal alone and explained that certain patients, for various reasons, require this type of anesthesia. He also said there is no such thing as a minor general anesthetic.

Following the decision of the Quebec Order, the Honorable Claude Forget, Minister of Social Affairs, stated that it is the responsibility of the Order to investigate the three deaths. He said that discussions between his department and the dentists "implied there should be as few general anesthetics as possible in dentists' offices". However, he did note that the practice is necessary in certain circumstances. He added that the government takes action only when "there is a total breakdown in the disciplinary action and the sense of responsibility of the professional board concerned". Mr. Forget stated that in this particular case there is no sign of this taking place.

The dental profession in Quebec and the public have accepted this decision with satisfaction. A few dentists have requested the Order to approve their system of delivering general anesthesia.

In Alberta, a woman died last March

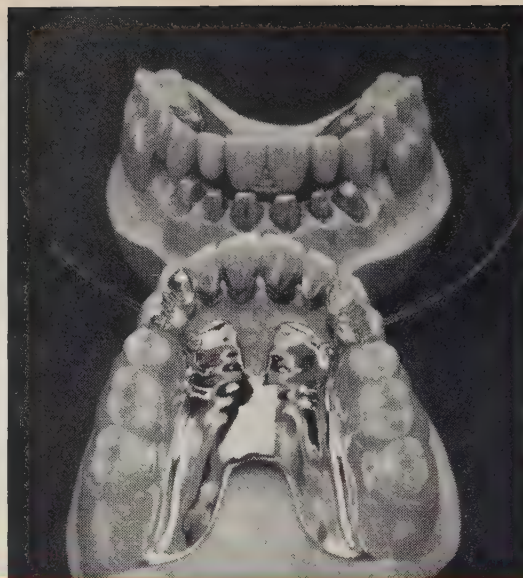
following the use of general anesthetic, administered by a qualified anesthetist, in a dental office. Investigation of the anesthetic machine revealed that the connecting hoses had been accidentally interchanged so that the patient was given straight nitrous oxide instead of oxygen.

The jury investigating the death of this woman made four basic recommendations:

- 1) that equipment be designed in such a way as to make interchangeability of hose lines impossible;
- 2) that a universal color coding be implemented;
- 3) that equipment be stored in a secure manner and a designated responsible person have the only keys;
- 4) that a compulsory regulated check system of all equipment be established.

As a result of the recommendations made by the jury, a committee was formed as a joint effort between the Alberta Dental Association and the College of Physicians and Surgeons of Alberta. This committee is comprised of two anesthesiologists and an oral surgeon who has a surgical suite in his office and is familiar with the requirements. Although the committee was formed prior to any pressure from government, the provincial minister of health and social development is being kept informed of the progress.

The committee will establish standards which must be met in order for a dentist to provide general anesthetic facilities in his office.



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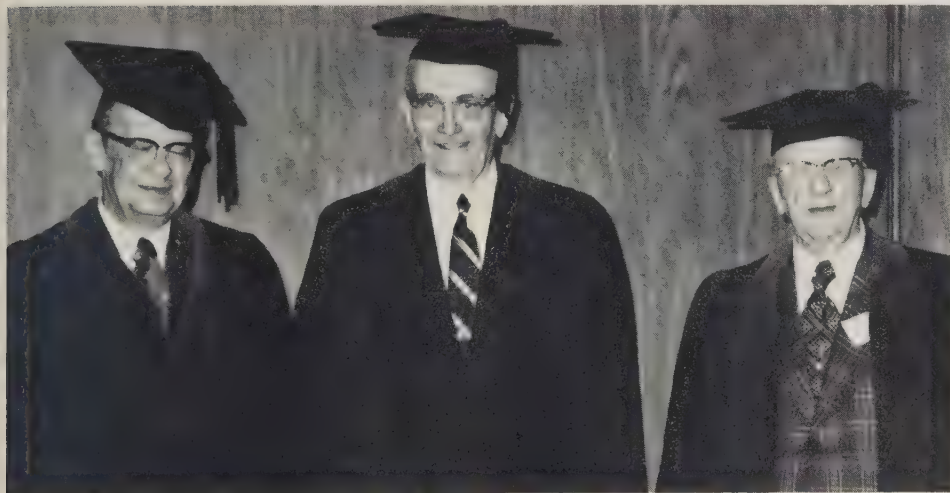
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HONORARY FELLOWSHIPS AWARDED BY RCDS

Recipients of honorary fellowships conferred by the Royal College of Dentists of Canada (left to right): Harold Hillenbrand of Chicago, former executive director of the American Dental Association; Joseph H. Johnson of Toronto; and Scott Hamilton of Edmonton.



Fellowships in the Royal College of Dentists of Canada were conferred on the following five dentists during the RCDC Convocation in Toronto, October 3: D. W. Stoneman of Toronto, Radiology; P. R. Dow of Vancouver, Endodontics; G. L. Freedman of Montreal, Oral Surgery; R. J. McComb of Toronto, Oral Pathology; and G. G. Wright of London, Paedodontics.

Three honorary fellowships were also conferred during the convocation. Recipients were Scott Hamilton of Edmonton, Joseph H. Johnson of Toronto and Harold Hillenbrand of Chicago, former executive director of the American Dental Association.

Newfoundland to regulate denturists

The Newfoundland government is now preparing legislation designed to regulate the operation of denturists in the province. The legislation is being drawn up in consultation with the Newfoundland Dental Association and representatives of the denturists currently operating in the province.

Dr. A. T. Rowe, provincial health minister, has said that the new regulations will be similar to those established in Nova Scotia and will require denturists to pass formal examinations in order to be eligible to practise in the province.

Commenting on the present situation in the province, Dr. Rowe stated: "More and more people who are calling themselves denturists are entering the province and working and practising illegally and government is unwilling to stand by and see the law being broken by individuals whose qualities are unknown." Dr. Rowe emphasized that Newfoundland would not become a haven for denturists from other provinces.

Until the new regulations become law, the provincial government plans to crack down on illegal denturist operations under the Newfoundland Dental Act.

P.E.I. dentist goes to African mission

Allan MacLean of Summerside, Prince Edward Island, is taking a year off from his practice to work at the African Inland Mission near Nairobi in Kenya.

Dr. MacLean, former secretary of the Prince Edward Island Dental Association, will work in the hospital of the interdenominational mission taking care of the dental needs of the missionaries, their children and the residents of native communities in the area.

Hygienist's duties expand in Nfld.

The Newfoundland government recently approved changes in the hygienists' section of the Dental Association's by-laws allowing an expansion of the duties of hygienists in the province. The new duties approved by the government include: making topical applications to the teeth of caries preventive medicaments; and completing the post and tooth cutting portion of plastic restorative procedures. The second function may be performed by hygienists with advanced training in this particular procedure.

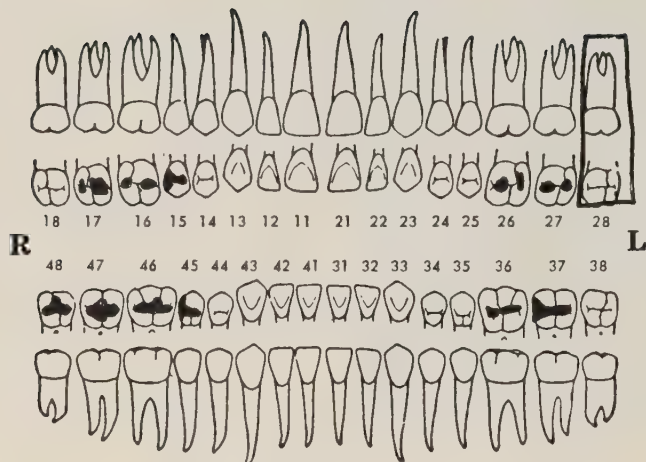
JOURNAL WELCOMES FIRST PROVINCIAL CORRESPONDENT

Robert D. Sexton of Corner Brook, Newfoundland, has been appointed provincial correspondent for the CDA Journal. Dr. Sexton will be reporting regularly on news and developments throughout his province which are of interest to the dental profession across Canada.

Dr. Sexton graduated from the Faculty of Dentistry at Dalhousie University in 1968. He is immediate past president of the Newfoundland Dental Association and is a member of the Fédération Dentaire Internationale.

Dr. Sexton's appointment is expected to be the first in a series. The CDA Journal has contacted each provincial association requesting that they appoint a member to the post of correspondent to the national Journal. This will enable the Journal to upgrade its national coverage and keep CDA members continually updated on news and events affecting the dental profession from coast to coast.

Unidentified body



The odontogram shown here is that of an unidentified male body found September 13 near Hearst, Ontario. The deceased, whose age is estimated at 25 to 30 years, had all teeth present except the upper left third molar. His dentition was excellent with lower left and right cuspids slightly protruding. All restora-

tions shown are amalgam. Anyone with information which could help in the identification of this man should contact: Dr. James D. Purves, 170 St. George St., Toronto, or Dr. Bertrand Proulx, Coroner, Hearst, Ontario.

International standards on dentifrice abrasion

A joint working group of the Fédération Dentaire Internationale and the International Standards Organization Technical Committee 106-Dentistry met in London, England, on September 18, 1974, to continue collaborative work on the development of international standards on dentifrice abrasion.

D. J. Gau, associate professor of dentistry and chairman of the University of Alberta's Department of Dental Materials, attended as a representative of the Canadian Advisory Committee on ISO-TC 106-Dentistry which is sponsored by the Standards Council of Canada.

The meeting, chaired by John Hefferen of the United States, drew delegates from Japan, Germany, France, Sweden, the U.S. and the United Kingdom, as well as Canada.

Our mistake:

STATUS OF EDUCATIONAL PROGRAMS

The following is a corrected list of programs evaluated by the Canadian Dental Association's Council on Education showing the status of undergraduate dental programs across Canada as of May 1974.

Undergraduate dental programs

Name of university	Accreditation status awarded	Faculty of Dentistry	Approval
Faculty of Dentistry University of British Columbia	Approval	University of Western Ontario	Approval
Faculty of Dentistry University of Alberta	Approval	Faculty of Dentistry University of Toronto	Approval
College of Dentistry University of Saskatchewan	Provisional approval	Faculty of Dentistry McGill University	Approval
Faculty of Dentistry University of Manitoba	Approval	Faculté de médecine dentaire Université de Montréal	Approval
		Faculty of Dentistry Dalhousie University	Approval

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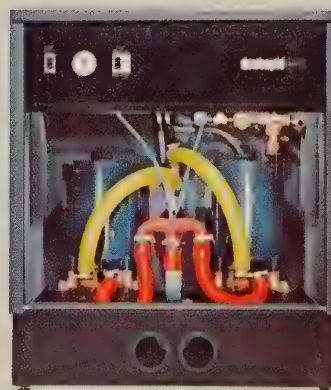


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Indications: Indicated for the production of local anesthesia for dental procedures by infiltration injection or nerve block.

Contraindications: Known hypersensitivity to the amide type local anesthetics or to methylparaben which is added to the multiple dose vial solutions.

Warnings: RESUSCITATIVE EQUIPMENT AND DRUGS SHOULD BE IMMEDIATELY AVAILABLE WHEN ANY LOCAL ANESTHETIC IS USED.

Usage in Pregnancy: Safe use of Carbocaine has not been established with respect to adverse effects on fetal development. Careful consideration should be given to this fact before administration during pregnancy.

Solutions containing a vasoconstrictor, particularly epinephrine or norepinephrine, should be used with extreme caution in patients receiving antidepressants of the triptyline or imipramine types or MAO inhibitors because a severe prolonged hypertension may occur.

Precautions: The lowest dose that results in effective anesthesia should be used to avoid high plasma levels and serious undesirable systemic side effects. Injection of repeated doses of Carbocaine may cause significant increases in blood levels. Debilitated, elderly patients, acutely ill patients, and children should be given reduced doses commensurate with their age and physical status.

Solutions containing a vasoconstrictor should be used cautiously in the presence of diseases which may adversely affect the patient's cardiovascular system. In persons with known drug sensitivities or allergies Carbocaine should be used cautiously.

Serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients during or following the administration of chloroform, halothane, cyclopropane, trichloroethylene, or other related agents.

Adverse reactions: Adverse reactions result from high plasma levels due to excessive dosage, rapid absorption, or inadvertent intravascular injection. Hypersensitivity, idiosyncrasy, or diminished tolerance may also be the cause of reactions. Reactions due to overdosage (high plasma levels) are systemic and involve the central nervous system and the cardiovascular system.

Reactions involving the central nervous system are characterized by excitation and/or depression. Nervousness, dizziness, blurred vision, or tremors may occur followed by drowsiness, convulsions, unconsciousness, and possibly respiratory arrest.

Reactions involving the cardiovascular system include depression of the myocardium, hypotension, bradycardia, and even cardiac arrest. Treatment of a patient with toxic manifestations consists of maintaining an airway and supporting ventilation using oxygen, and assisted, or controlled respiration as required. Supportive therapy of the cardiovascular system consists of using vasopressors, preferably ephedrine. Convulsions may be controlled by the use of oxygen. If convulsions persist, the intravenous administration in small increments of an ultra short-acting barbiturate (i.e., thiopental, thiamylal) may be used. If these are not available, a short-acting barbiturate (secobarbital, pentobarbital) may be used. Intravenous barbiturates should only be used by those familiar with their use.

Allergic reactions are characterized by cutaneous lesions of delayed onset, or urticaria, edema, and other manifestations of allergy. The detection of sensitivity by skin testing is of doubtful value.

Dosage and administration: For infiltration and block injections in the upper or lower jaw the average dose of 1 cartridge will usually suffice. Each cartridge contains 1.8 ml. (36 mg. of Carbocaine). This dose may be doubled if necessary to effect anesthesia. The maximum dose should not exceed 3.6 mg. per pound of body weight.

Any unused portion of a cartridge should be discarded.

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CDA Retirement Savings Plan

Unit values of the Canadian Dental Association Retirement Savings Plan stood as follows on October 31, 1974:

Guaranteed Fund \$11.298;

Fixed Income Fund \$14.344;

Common Stock Fund \$24.057.

Total assets (market value) of the plan were \$15,964,002.56.

The following portfolio purchases and sales occurred during the preceding month: Bought \$390,000 Royal Trust GIR, \$400,000 IAC discount note, 5,000 shares Cadillac-Fairview Corp. common stock, \$100,000 Aluminum Company of Canada note, \$200,000 British Columbia Telephone note.

Sold, \$240,000 Royal Trust GIR, 30,000 shares Trans Canada Pipeline, \$400,000 IAC discount note, \$300,000 IAC discount note.

For further information write to CDA-sponsored Pension and Insurance Plans, 14 Madison Ave., Toronto M5R 2S1, Ontario.

DEATHS

Clarke, George Frederick. 90. Woodstock, N.B. Philadelphia Dental College, 1913. 23-10-74. Survived by Mary (wife), Frederick (son), Mrs. Jane Bernard and Mrs. Kenneth Homer (daughters).

Davidson, Benjamin Gordon. 74. Montreal. Royal College of Dental Surgeons of Ontario, 1921. 31-10-74. Survived by Martha (Mrs. Stanley Lesser), Mrs. Bezie Wolfe, and Margot (Mrs. H. Garfield), (daughters).

Egan, John Cameron. 72. Keswick, Ont. University of Toronto, 1927. 6-10-74. Survived by Stephanie (wife), and Kerry, John and Dennis (sons).

Geddes, Donald Currie. 62. London, Ont. University of Toronto, 1936. 1-10-74.

Gowda, Faust. 69. Edmonton. University of Alberta, 1928. 8-10-74. Survived by Rose (wife), Earl, (son) and Claudia and Melvina (daughters).

Lundy, Benjamin. 84. Toronto. Royal College of Dental Surgeons of Ontario, 1920. 2-11-74. Survived by Arthur (son).

McCarron, Peter Francis. 55. Dartmouth, N.S. Dalhousie University, 1951. 22-10-74. Survived by Viola (wife), Thomas (son), and Mrs. Jaunita Kennedy, Mrs. Noreen Tretick and Mrs. Elizabeth Restall (daughters).

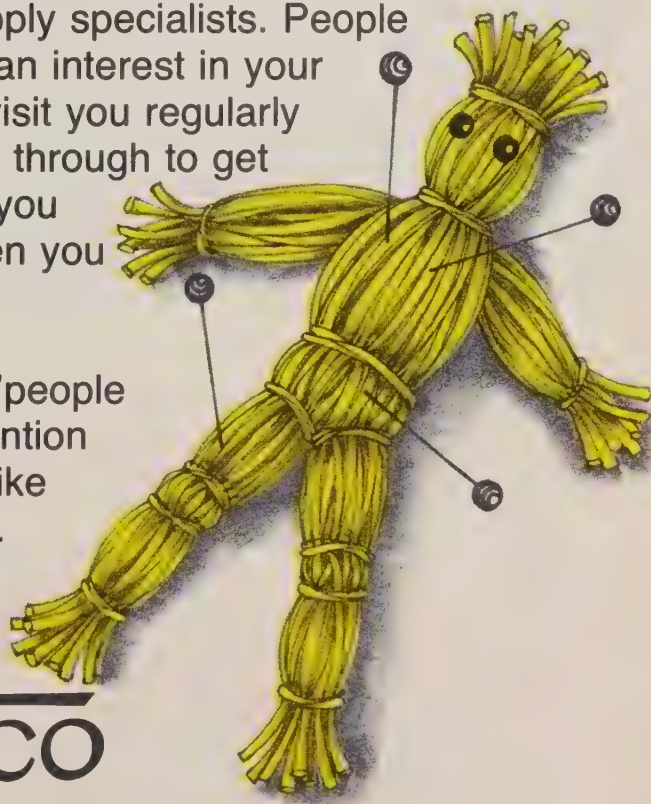
Smith, Frederick Robert. 76. Saskatoon. Royal College of Dental Surgeons of Ontario, 1923. 30-10-74.

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L'ANESTHESIE GENERALE DANS LES CABINETS DENTAIRE MISE EN QUESTION

Trois décès sont survenus dans des cabinets de dentistes de Montréal depuis environ un an, les deux derniers, au cours du mois dernier.

L'Ordre des dentistes du Québec, face à la publicité qui a été faite dans les journaux à la suite de ces accidents, a considéré le problème à son assemblée du 18 octobre 1974.

L'Ordre a imposé aux dentistes un moratoire commençant le 1er novembre 1974 prohibant l'usage de l'anesthésie générale dans les cabinets de dentiste, excepté dans les centres hospitaliers et dans des cliniques privées qui devront être reconnues par l'Ordre.

Le docteur Charles E. Gosselin, président de l'Ordre, a déclaré dans une conférence de presse, que l'Ordre, dans sa décision, avait reçu l'appui du Collège des médecins et chirurgiens et de l'Association des anesthésistes du Québec; il a ajouté qu'une commission d'enquête composée de représentants de ces deux organismes et de dentistes et aussi, il l'espère, de représentants du Ministère des affaires sociales, sera incessamment formée pour étudier ce problème et faire des recommandations à son sujet.

Le président a ajouté que le Ministère des affaires sociales avait sa part de responsabilité dans ces accidents malheureux, parce qu'il n'a pas facilité aux dentistes, l'accès aux hôpitaux; il a tenu à décharger les dentistes de "l'odieux de la situation" sans pour autant renvoyer la balle aux anesthésistes. "Il n'appartient pas à l'Ordre de juger de la qualité des actes posés par les anesthésistes et hors du contrôle des

chirurgiens-dentistes impliqués", a précisé le docteur Gosselin.

Il a fait part que plus de 35,000 anesthésies générales ont été prodiguées dans la seule ville de Montréal, en 1974 et que la proportion des décès survenus à ces occasions est assez minime.

En réaction aux déclarations du président de l'Ordre des dentistes, l'Honorable Claude Forget a annoncé qu'il appartenait à l'Ordre d'entreprendre des enquêtes au sujet du décès de trois patients au cours ou après une anesthésie générale dans des cabinets dentaires. Il a ajouté, qu'avant ces accidents, des échanges s'étaient établis entre l'Ordre et son ministère pour qu'il y ait le moins de cas d'anesthésie générale possible dans les cabinets des dentistes, tout en concédant qu'il y a des circonstances qui justifient ces mesures. L'Honorable Forget a de plus déclaré que son ministère intervient seulement dans des circonstances où il y a détérioration du sens de la discipline et de la responsabilité de la part d'une corporation professionnelle et que tel ne lui semblait être le cas pour ces récents accidents.

Tous les dentistes du Québec ont reçu une lettre les avisant de cette décision.

La profession dentaire et le public ont apparemment accepté cette décision avec satisfaction. Quelques dentistes ont demandé que l'Ordre approuve le système utilisé dans leur cabinet pour l'anesthésie générale.

Une femme est morte, dans un cabinet dentaire, en Alberta, en mars dernier,

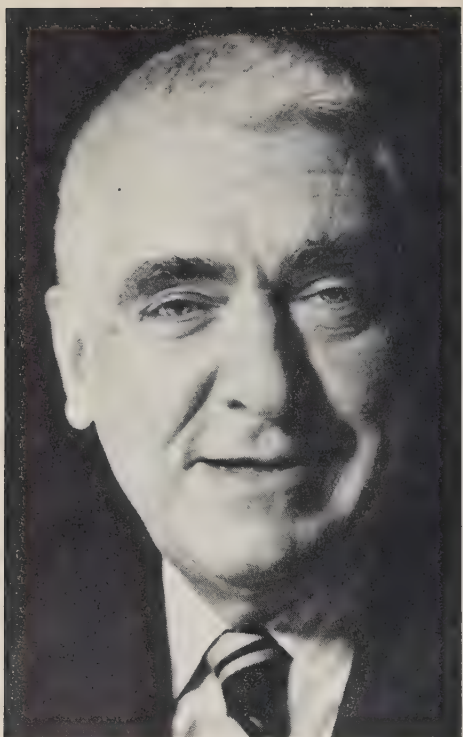
après avoir subi une anesthésie générale administrée par un anesthésiste qualifié. Un examen de l'appareil d'anesthésie a révélé que les boyaux avaient été mêlés et que la patiente avait reçu du protoxyde d'azote pur au lieu d'un mélange de ce gaz avec de l'oxygène.

Le jury, à l'enquête du coroner, a fait quatre recommandations:

1. Que les appareils soient conçus de façon à ne pas pouvoir mêler les boyaux;
2. Que les boyaux soient identifiés par une couleur particulière qui serait adoptée partout;
3. Que l'appareil soit rangé d'une façon inaccessible à tous et qu'une personne en soit chargée en gardant les clefs de l'endroit où il est placé;
4. Qu'on élabore un système obligatoire de vérification d'appareil.

Un comité a été formé, suite aux recommandations du jury, pour établir ces normes; le comité se compose de représentants de l'Association dentaire d'Alberta et du Collège des médecins et chirurgiens de cette même province. Ces représentants sont deux anesthésistes et un chirurgien buccal qui a une salle d'opération dans son cabinet et qui est familier avec les exigences de l'administration de l'anesthésie générale. Le ministre de la Santé et du bien-être social, quoique le comité ait été constitué avant toute intervention du ministère, est tenu au courant de son travail.

Le comité établira des normes pour que l'administration de l'anesthésie générale se déroule normalement dans un cabinet dentaire.



H. Lindsay Mussells

UN DENTISTE DE MONTREAL EST ELU PRESIDENT DESIGNE

Le docteur H. Lindsay Mussells, dentiste bien connu de Montréal, a été élu président désigné de l'Association dentaire canadienne.

Il occupera la présidence à la fin de la réunion du Conseil des Gouverneurs qui aura lieu à St-Jean, Terre-Neuve, en 1975.

Il a été élu de préférence au docteur Fred T. Wihak, de Régina.

Le docteur Mussells est né à Montréal et il y a fréquenté les écoles. Il a reçu son diplôme de dentiste de l'Université McGill et, après avoir servi dans les forces armées canadiennes, il est retourné à son exercice à Westmount.

Il a été président du Montreal Dental Club et du Collège des chirurgiens-dentistes de la province de Québec (maintenant l'Ordre des dentistes du Québec). Le docteur Mussells est gouverneur de l'Ordre depuis 1956 et membre du conseil exécutif depuis dix ans. Il est membre du Conseil des Gouverneurs de l'Association dentaire canadienne depuis 1964.

NOUVEAU PRESIDENT

Le docteur J. Fred Reid, de Vancouver, a été intronisé président de l'Association dentaire canadienne, le 9 octobre, au cours du congrès national de l'Association, à Toronto.

Le nouveau président prend son poste durant une période où s'opéreront des changements importants dans les structures de l'Association. On a en effet proposé que l'Association modifie ses statuts pour que les dentistes du Canada adhèrent volontairement et individuellement à l'Association plutôt qu'automatiquement par le truchement des corporations membres. Le docteur Reid présidera une assemblée spéciale du Conseil des Gouverneurs qui aura lieu les 3 et 4 mars 1975 et cette assemblée considérera les implications d'un tel changement.

Le docteur Reid devient le 55e président de l'Association dentaire canadienne. Il est diplômé de l'Université McGill et il oeuvre, comme dentiste, depuis 1951, au sein d'une équipe d'exercice de groupe à Vancouver-Nord. Il a participé activement aux organisations dentaires au niveau national et au niveau provincial depuis qu'il a été élu, en 1962, gouverneur du Collège des chirurgiens-dentistes de la Colombie britannique. Il a été président de ce Collège en 1968.

Le docteur Reid a été nommé gouverneur de l'Association dentaire canadienne durant son terme de président du Collège de la C.-B. et il a agi comme membre de la Commission ad hoc au sujet des auxiliaires dentaires (Commission Wells) en 1966-71.

Services d'assurance-maladie amplifiés pour les handicapés

Le Conseil des Gouverneurs de l'Association dentaire canadienne, à son assemblée annuelle, a ratifié les recommandations du conseil des services hospitaliers et fera des pressions auprès du gouvernement fédéral et des ministères provinciaux concernés pour que les bénéfices de l'assurance-maladie couvrent les traitements dentaires des handicapés physiques des "familles dans le besoin".

Plusieurs institutions utilisent déjà le critère des "familles dans le besoin" pour l'admission des handicapés et l'Association croit que des normes semblables pourraient s'utiliser pour amplifier les bénéfices de l'assurance-maladie. Les cas qui taxent des familles peuvent se classer ainsi: retardés mentaux, paralysie cérébrale, arthrite rhumatoïde, hémophilie, leucémie, fissures palatines, fibrose kystique et surdité.

Chacune de ces maladies soulèvent des problèmes quand le praticien privé tente de traiter ces patients dans son

cabinet et expose ceux-ci à des accidents qui peuvent être mortels. On pourrait assurer la protection de ces malades grâce à une action thérapeutique multidisciplinaire.

L'Association recommandera d'établir, dans les hôpitaux universitaires affiliés aux dix facultés dentaires canadiennes, des centres de traitements dentaires pour ces catégories de malades. Ces centres embaucheraient des membres du personnel enseignant des facultés dentaires, à salaire, pour agir comme plein-temps géographes. Des centres régionaux pourraient être mis sur pied quand les dix centres universitaires auraient été créés.

L'Association dentaire canadienne, puisque l'organisation de ces centres de traitements taxerait lourdement le budget de santé des provinces, recommandera aussi que le gouvernement fédéral octroie des subventions pour aider les provinces à mettre en marche de tels programmes dentaires en faveur des handicapés.

Des études cliniques ont démontré que Colgate au fluorure MFP* est insurpassé pour combattre la carie.



Plusieurs dentifrices au fluorure contiennent du fluorure stanneux. Mais Colgate est différent: il contient du monofluorophosphate de sodium; un fluorure amélioré. Comme le prouvent de nombreuses études cliniques (voir études 1 à 9 ci-dessous), la formule au fluorure MFP de Colgate est efficace dans la réduction du taux de nouvelles caries. Des recherches ont démontré que le monofluorophosphate déposé sur l'émail des dents persiste relativement bien, si on le compare aux fluorures simples. En effet, l'ion de monofluorophosphate, dans lequel sont combinés le fluorure et le phosphate, réagit différemment en présence de la salive aussi bien qu'en combinaison avec les autres ingrédients du dentifrice.

La prochaine fois qu'on vous demandera conseil au sujet des dentifrices au fluorure, souvenez-vous de Colgate avec MFP. Colgate avec MFP constitue un traitement au fluorure amélioré.

Tableau synoptique des études cliniques de COLGATE avec MFP* Le détail de ces études sera fourni sur demande.

Etude Clinique	Résultats: Réduction des caries par MFP en comp. avec autre dentifrice	Proportion	Durée	Nombre de sujets	Age	Conditions d'étude
S. B. Finn et H. C. Jamison, <i>Journal of Dentistry for Children</i> , 30, 17. (1963).	I MFP: 27% moins de CMP que FS-PPC	97.5	2 ans	293	6-20	Brossage surveillé 3x/jour pendant l'année scolaire.
S. N. Frenkl et J. E. Alman, <i>Journal of Oral Therapeutics and Pharmacology</i> , 4, 443. (1968).	II MFP: 11% moins de CMP que FS-PPC	95.0	3 ans	409	6-15	Brossage non surveillé.
M. E. Mergele, <i>Bulletin, Academy of Medicine of New Jersey</i> , 14, 251. (1968).	III-A MFP: 17% moins de CMP que Contrôle	98.0	3 ans	362	8-14	Brossage non surveillé.
	III-B MFP: 5% moins de CMP que FS-PPC	N.S.	3 ans	369	8-14	Eau contenant fluorure.
A. E. Thomas et H. C. Jamison, <i>Ibid.</i> , 14, 241 (1968).	IV MFP: 34% moins de CMP que Contrôle	99.5	2 ans	305	8-16	Brossage surveillé 2x/jour.
M. E. Mergele, <i>Ibid.</i> , 14, 247. (1968).	V-A MFP: 21% moins de CMP que Contrôle	99.0	22 mois	457	7-21	Brossage surveillé 3x/jour.
	V-B MFP: 13% moins de CMP que FS-MSI	90.0	22 mois	457	7-21	
E. A. Fanning, T. Gotjamanos et N. J. Vowles, <i>The Australian Dental Journal</i> , 13, 201. (1968).	VI-A MFP: 20% moins de CMP que Contrôle	99.9	2 ans	844	11-13	Brossage non surveillé.
	VI-B MFP: 2% plus de CMP que FS-MSI	N.S.	2 ans	844	11-13	
J. Møller, J. J. Holst et E. Sørensen, <i>British Dental Journal</i> , 124, 209. (1968).	VII MFP: 19% moins de CMP que Contrôle	99.9	30 mois	578	10-12	Brossage surveillé 1x/jour pendant l'année scolaire.
M. N. Naylor et R. D. Emslie, <i>British Dental Journal</i> , 123, 17. (1967).	VIII MFP-PB: 18% moins de CMP que Contrôle	99.9	3 ans	995	11-12	Brossage non surveillé.
E. A. Fanming, K. M. Cellier, T. Gotjamanos, N. J. Vowles, et I. Van Der Wielen, <i>Archives of Oral Biology</i> , 13, 467. (1968).	IX					
S. S. Ingram, <i>Bulletin de la Société de Chimie Biologique</i> , 50, 1841. (1968).	X					

SYMBOLES	
MFP	Dentifrice Colgate avec MFP
FS-PPC	Dentifrice au fluorure stanneux et pyrophosphate de calcium
FS-MSI	Dentifrice au fluorure stanneux et métaphosphate de sodium insoluble
MFP-PB	Dentifrice au sarcosinate plus MFP et phosphate bicalcique
Contrôle	Dentifrice neutre
CMP	Dents cariées manquantes, plombées
N.S.	Non significatif

Colgate au fluorure MFP: un traitement au fluorure amélioré.

Marque déposée de Colgate-Palmolive Limited. Des études cliniques détaillées ainsi qu'une monographie du produit seront fournis sur demande. Colgate-Palmolive Ltd., Toronto, Ontario.



"Colgate avec MFP s'est révélé un dentifrice préventif contre la carie dentaire et son emploi peut avoir une valeur importante lorsqu'on l'utilise dans le cadre d'un programme d'hygiène buccale exécuté avec application et de soins dentaires professionnels réguliers."

LE PRÉSIDENT FAIT APPEL À L'UNITÉ

Le président de l'Association dentaire canadienne pour 1974, le docteur Jack Abra, face aux changements considérables qui se produiront dans les structures de l'ADC quand les membres y adhéreront sur une base personnelle et libre, a fait appel à l'unité au sein de la profession dentaire.

Le docteur J. E. Abra, de Winnipeg, parlait devant le Conseil des Gouverneurs à sa 73e assemblée annuelle. Dans son rapport, il s'adressait aux gouverneurs des provinces pour qu'ils assument la direction nécessaire à créer une association nationale plus forte face aux changements qui s'annoncent.

Le docteur Abra a souligné que, tout en considérant le dentiste comme la pierre angulaire du système pour prodiguer les soins dentaires, il est essentiel que le dentiste joigne individuellement les rangs d'un organisme fort et actif avec la volonté et des dispositions de s'exprimer sur toute question qui affecte la médecine dentaire.

"Seul, nous crions dans le désert", a-t-il dit.

Le président a fait appel aux organismes dentaires de tout le pays pour que leurs membres respectent scrupuleusement le Code d'éthique de l'ADC. Il a déclaré que la meilleure façon de contrecarrer certaines propositions socio-économiques du gouvernement est de donner satisfaction aux patients et de tenter avec envergure de répondre aux besoins de la population pour des soins dentaires.

Le docteur Abra a ajouté que "notre profession, au cours des récentes années, a surpassé les plus grands espoirs de nos prédécesseurs tant au point de vue technique que sociologique. Il faut s'assurer que notre sens professionnel marche de pair avec ces progrès technologiques. Une certaine érosion née d'une apathie intérieure, l'indifférence et l'ignorance peuvent rapidement détruire tout organisme et notre profession ne constitue pas une exception."

LES DONS AU FONDS D'ENSEIGNEMENT DENTAIRE ONT AUGMENTÉ DE 194 POUR CENT

Monsieur M. E. (Bud) Bower, de Toronto, président de Fonds canadien pour l'enseignement dentaire, a fait part au Conseil des Gouverneurs de l'Association dentaire canadienne, qui tenait son assemblée annuelle à Toronto, en octobre dernier, que les dons au Fonds canadien pour l'enseignement dentaire ont augmenté de 194 pour cent en 1973, en comparaison avec ceux de 1972. Ces dons ont été faits par des dentistes et le monde des affaires et de l'industrie. De plus, les dentistes canadiens ont versé personnellement \$227,007 au fonds capital du FCED.

Le Fonds a octroyé, cette année, une somme de \$105,000 pour l'enseignement et pour la recherche dentaire au Canada. Parmi ces subventions, il y avait 17 bourses d'études; des sommes

de \$1,000 données aux dix écoles dentaires du Canada; un soutien financier pour la Conférence annuelle des étudiants dentaires, pour la Huitième Conférence biennale de la recherche et de l'enseignement dentaire et pour la Conférence pédagogique de 1974 qui traitait du Contrôle de la douleur et de l'appréhension.

Parmi les projets de plus d'envergure, le Fonds a contribué la somme de \$14,300 à l'Association dentaire canadienne pour défrayer les honoraires et les dépenses d'un coordinateur du programme d'agrément des cours d'études dentaires. Cet argent provenait de la Fondation Kellogg, qui s'est engagée pour trois ans, à verser une somme totale de \$42,900.

Déménagement à Ottawa

L'Association canadienne des hygiénistes dentaires a pris les premières dispositions pour établir son siège social à Ottawa. Ce siège social consistera d'abord en une adresse permanente et en un minimum de services de secrétariat.

La décision qu'a prise l'ACHD de s'installer à Ottawa vient d'une recommandation faite par un comité d'enquête qui avait comme mandat de suggérer l'endroit où se trouveraient ses quartiers-généraux.

La première tâche du comité était de trouver le meilleur endroit pour situer le siège social. Sherita Clark, présidente du comité, et Sharon French, conseillère, ont eu une série d'entretiens avec des officiers de l'Association médicale canadienne, de l'Association canadienne des infirmières et de la Santé et du Bien-Être du Canada.

Régime d'épargne retraite

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 octobre 1974:

Fonds avec garantie \$11.298;

Fonds à revenue fixe \$14.344;

Fonds d'actions ordinaires
\$24.057.

L'avoir total (valeur marchande) du régime se montait à \$15,964,002.56.

Au cours du mois précédent, les transactions ont été les suivantes: Achat, \$390,000 Royal Trust GIR, \$400,000 IAC discount note, 5,000 shares Cadillac-Fairview Corp. common stock, \$100,000 Aluminum Company of Canada note, \$200,000 British Columbia Telephone note. Vente, \$240,000 Royal Trust GIR, 30,000 shares Trans Canada Pipeline, \$400,000 IAC discount note, \$300,000 IAC discount note.

Pour de plus amples renseignements, veuillez écrire à CDA-sponsored Pension and Insurance Plans, 14 Madison Ave., Toronto M5R 2S1, Ontario.

VOLUNTARY MEMBERSHIP PROPOSED

A challenge to move from automatic to purely voluntary membership was presented to the Canadian Dental Association's Board of Governors at its annual meeting, October 3-5, in the Four Seasons Sheraton Hotel, Toronto. Final decisions on the Report will be made at a Special Board Meeting, March 3-4, 1975.

"The change to dependence on voluntary, individual membership should be welcomed as a progressive step which will inevitably strengthen the relationship of the Association with its individual members," said Dr. J.B. Macdonald, chairman, of the Task Force on the Future of the Canadian Dental Association.

Task Force members pointed to new legislation in Ontario and Quebec which effectively requires that support of professional associations become separated from licensure. They predicted other provinces would follow and made it clear that the Association must immediately seek a new organizational base.

As members know, the Association

is a federation of provincial bodies who traditionally have obtained both their own and the funds to support the CDA through license fees from practising dentists.

The Task Force recommended that the national Association take immediate steps to introduce new by-laws consistent with individual, voluntary membership to become effective in 1975 and that the Association recognize a transitional period in its structure until the end of 1977.

Dr. Macdonald participated as a guest at one of the major discussion periods devoted to consideration of the Report by the Board of Governors. All Board members had received advance copies of the Report to facilitate discussion, which was extensive and indicated a number of basic differences of opinion.

In view of this turn of affairs, the Board voted to change the original order of business for consideration of the Report and to postpone their Special Board Meeting scheduled for De-

cember until March. This delay will give all corporate bodies an opportunity of commenting in writing on the Report and the proposed by-laws. These statements are to be forwarded to members of the Board of Governors by the end of January 1975.

Members of the Board, sitting not as a Board but as a Reference Committee, did agree with the principle of voluntary membership for the CDA. It suggested that there were basic issues for Board decision:

1. whether the CDA should be an autonomous body with the right to represent its members nationally;
2. whether the CDA structure should be fundamentally based on individual voluntary membership rather than a provincial corporate membership as it is at present; and
3. whether the provincial bodies should be involved in policy-making for the national dental body.

It was felt that once these principles were established, appropriate by-laws could be defined.

ABRA CALLS FOR UNITY

Facing the enormous changes in structure and organization called for by a move toward individual, voluntary membership, 1974 president, Jack Abra, called for unity among Canadian dentists.

Dr. J. E. Abra of Winnipeg addressed the Association's Board of Governors at the 73rd annual meeting. His report called on the governors, who represent every province, to provide the leadership necessary to build an even stronger professional association in the face of future change.

Dr. Abra stressed that while the individual dentist is the cornerstone of the dental health care system, it is essential that the individual belong to strong, vital organizations with the will and ability to speak out on any issue which affects dentistry.

"Alone, we are voices crying in the wilderness," he said.

The president called on dental organizations across the country to enforce rigid adherence to the CDA Code of Ethics. He stated that the best deterrent to the socio-economic health prop-

osals of government are satisfied patients and a magnanimous approach to satisfying the dental needs of all the people.

"In recent years, our profession has technically and sociologically surpassed the fondest dreams of those who preceded us. We must make sure that our morality keeps pace with these technological advances. Erosion from within due to apathy, indifference and ignorance can quickly destroy any organization and our profession is no exception," Dr. Abra declared.

"CALLING A SPADE A SPADE"

"In my judgment, professions have paraphrased Charles Wilson's statement that what's good for G.M. is good for the country and are saying, 'What's good for the profession is good for the public.' "

Convention keynote speaker, Task Force chairman Dr. J. B. Macdonald, went on to tell CDA delegates that he believes the support of professional associations is a legitimate way of promoting professional interests.

"Let's call a spade a spade and acknowledge that this is the primary purpose," Dr. Macdonald stated. "The central issue can be stated simply. Licensing fees are intended to protect the public interest. Professional associations are generally designed to promote the profession's interests. The two are not necessarily synonymous and indeed ample opportunity exists for conflict of interest."

Having spent one entire business session of the Board of Governors as the guest of the Board answering questions from the floor on all aspects of the Task Force report, Dr. Macdonald interjected into his address his impressions of the discussion. He felt the most controversial of the Task Force recommendations revolved around the need of members to have a clear and compelling role in the affairs of the Association, if the financial base of the Association is dependent on individual, voluntary membership. The Task Force had recommended that the act of electing a representative government more than anything else would guarantee that the Association would be responsive to the needs and wishes of the membership.

"The reason for the controversy is plain. The changes we recommend will mean that the Association is no longer

the helpless vassal of 10 provincial organizations which can and do act differently. The situation as it now exists is not unlike having the government of Canada composed of the 10 premiers and a prime minister plus a few extra cabinet ministers from the larger provinces. One can imagine how that would work. Division and impotence would be the result as it has been for the CDA," Dr. Macdonald said.

"I heard one of your members arguing that the structure of CDA must ensure that the CDA position on important issues is the same as that of the provinces — by which of course he meant *his* province."

Such an objective would be unworkable because it would require veto power for either the provinces or the CDA, Dr. Macdonald explained.

"The only viable alternative is a fully autonomous CDA, built from the grass roots, speaking for its members and seeking to enunciate policies helpful to Canadian dentists. Consultation between CDA and the provinces would be essential and should keep disagreement to a minimum. The CDA should concern itself with federal and national matters and involve itself in provincial affairs *only* on the invitation of the provincial association. That kind of arrangement provides for equals working toward the solution of dentistry's problems."

In closing, Dr. Macdonald spoke of the members of the Task Force, saying that as a group they believed deeply in the importance of a strong, national organization, truly representative of the profession.

"They and I will feel rewarded if the Association now considers our Report in the same light."

Quebec delegates submit statement on Task Force report

Quebec delegates to the Board of Governors arrived at the opening session and presented for consideration by the members a statement on certain important aspects and reforms advocated in the official Task Force Report.

Signed by Vincent Dontigny, a member of the Task Force, and by Marc Trépanier, the Quebec statement was supported by the other Quebec delegates and was, in effect, the type of comment on the Task Force Report which will now be sought from all corporate members.

While the statement commented on almost all sections, major recommendations were for establishment of an Executive Council comprised of 1 representative from the Atlantic Division, 2 representatives from Quebec, 4 from Ontario, 1 from the Western Division (prairie provinces) and 2 from British Columbia. Members of the General Council would be elected from the same five divisions on the basis of one representative for each 200 members or part thereof.

In addition, Quebec proposed that there be a Professional Council, which would be autonomous and operated independently of the jurisdiction of the CDA. This Council would comprise representatives from the Association of Canadian Faculties of Dentistry, the National Examining Board of Canada, the Royal College of Dentists of Canada, CDA Council on Education, CDA Council on Hospital Services and one representative from each of the 10 provincial corporate bodies. This Council would have a permanent secretariat located on premises rented for this purpose from CDA. Decisions taken by this body would not require the approval of the Canadian Dental Association.

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Extend medicare to handicapped

The Board of Governors at its annual meeting, accepted a recommendation of the Council on Hospital Services and will call upon federal and provincial governments to extend medicare benefits to include dental treatment of the physically handicapped in "stressed families."

Stress to the family unit is already used as an admission criterion in several institutions for the handicapped and the Association feels similar standards could be used to extend medicare benefits. Handicapping conditions which apply stress to the family include mental retardation, cerebral palsy, rheumatoid arthritis, hemophilia, leukemia, cleft palate, cystic fibrosis and deafness.

Each condition presents a different array of problems to the private dental practitioner attempting to treat such patients in the office. Many of these problems can prove hazardous to the patient's life and a multidisciplinary approach is recommended to provide adequate protection.

The Association will recommend that dental treatment centres for the severely handicapped be established in teaching hospitals associated with the ten Canadian Faculties of Dentistry. These centres would be staffed by salaried "geographic full-time" faculty staff. Regional centres would be established only after the ten main centres are in operation.

Since the recommendations of the position paper require an expansion of provincial health budgets, the Canadian Dental Association will also recommend that the federal government provide grants in aid to the provinces for the establishment of such programs in dental care for the handicapped.

REID 1974-75 PRESIDENT



J. Fred Reid of Vancouver, newly-installed president of the Canadian Dental Association, congratulates H. Lindsay Mussells of Montreal on being named CDA's president-elect.

British Columbia dentist, J. Fred Reid of Vancouver, was installed as President of the Canadian Dental Association, October 9, at the Association's national convention in Toronto.

The new president takes office during a period of major change in the organization of the Association. Proposals have been made that the Association change its by-laws to provide for purely voluntary membership across Canada, instead of the present automatic membership. Dr. Reid will convene a special meeting of the Board of Governors March 3-4, 1975 to consider the implications of such a move.

Dr. Reid will be the 55th president of the Canadian Dental Association. He is a graduate of McGill University and has worked in group practice in North Vancouver since 1951. He has been active in provincial and national dental affairs since his election as a director of the College of Dental Surgeons of British Columbia in 1962. He was president of that organization in 1968.

Dr. Reid was appointed a governor of the Canadian Dental Association during his term as president of the B.C. College and served as a member of the federal Ad Hoc Committee on Dental Auxiliaries (Wells Commission) in 1969-71.

MONTREAL DENTIST IS ASSOCIATION'S PRESIDENT-ELECT

Dr. H. Lindsay Mussells, well-known Montreal dentist, is president-elect of the Canadian Dental Association. He won his election against Dr. Fred T. Wihak of Regina and will take up his gavel as president at the conclusion of the 1975 annual meeting in St. John's, Newfoundland.

Dr. Mussells is a native Montrealer having also received all his education in the city. He graduated, in dentistry, from McGill University and, after service in the Canadian Dental Corp, returned to practice in Westmount in 1946.

He is past president of the Montreal Dental Club and the College of Dental Surgeons of the Province of Quebec (now the Order of Dentists of Quebec). Dr. Mussells has been a governor of the Order since 1956 and a member of the executive council for the past 10 years. He has been a member of the Canadian Dental Association Board of Governors since 1964.

Historic moment

RCDS ENDS CDA ASSOCIATION

The 1974 annual meeting marked the end of the formal corporate association of the Canadian Dental Association and the Royal College of Dental Surgeons of Ontario. Dr. H. M. Jolley, speaking for the College, found it an historic as well as a significant event as he addressed the Board of Governors.

He termed events "a legal separation rather than a formal divorce." They stem from the recent Ontario provincial legislation which forces the separation of the professional licensing body from any professional association.

Dr. Jolley pointed out to the governors that the histories of the RCDS and the CDA have been inextricably intertwined from the birth of the RCDS by the Dentistry Act of Ontario in 1868. From the founding of the CDA in 1902,

the RCDS was the corporate member for Ontario and continued so until the re-structuring of the Ontario Dental Association. The RCDS then continued to have limited representation in the governing circles of CDA until this year's meeting.

Dr. Jolley concluded his remarks by saying, "There is no doubt about the continuing readiness to support those services which the CDA, perhaps uniquely, is equipped to supply, which can be of value to the RCDS in the discharge of its responsibilities. Essentially, we will be two separate organizations moving along parallel paths towards a common goal — the safeguarding of the dental health of the people of our country."

CFDE reports 194 per cent increase

Chairman, M. E. (Bud) Bower of Toronto reported to the annual meeting of the Canadian Dental Association in Toronto that donations to the Canadian Fund for Dental Education increased 194 per cent in 1973 over 1972. Donations were made by individual dentists, by business and industry. In addition, dentists in Canada personally contributed \$227,007 to the CFDE Capital Fund.

This year, \$105,000 were awarded to further dental education and research in Canada. Among the grants were 17 fellowships; \$1,000 grants to each of Canada's 10 dental schools; funding of the 1974 Annual Dental Students' Conference and both the 8th Biennial Conference on Dental Research and Education and the 1974 Teaching Conference on Control of Pain and Anxiety.

TORONTONIAN RECEIVES HONORARY MEMBERSHIP

Well-known Toronto dentist, Joseph Harker Johnson has been named an Honorary Member of the Canadian Dental Association. This honor, the highest bestowed by the Association, was conferred at the CDA National Convention in Toronto during the Installation Banquet.

Dr. Johnson has been an outstanding member of the profession for the last 30 years. During that time he contributed much to both organized dentistry and dental education. As Professor and Head of the Department of Dental Surgery and Anesthesia at the University of Toronto, he appeared on many major programs and was an outstanding scientific and editorial writer.

He has many credits to his name, being the past president of the Ontario Dental Association, the Academy of Dentistry, the Ontario Society of Oral Surgeons and the Canadian Society of Oral Surgeons. Dr. Johnson is also a life member of the American Society of Oral Surgeons.

An honorary membership in the Canadian Dental Association was bestowed on Joseph Harker Johnson of Toronto during the 1974 national convention. Dr. J. E. Abra, outgoing president of the CDA, presents Dr. Johnson with a special plaque commemorating the event.



RESEARCH AWARDS

The \$500 research prize of the Canadian Dental Research Foundation was awarded to Dr. David J. Kenny of the University of Toronto. The presentation was made Sunday, October 6, during the opening ceremonies of the 1974 Canadian Dental Association Convention. Dr. Kenny won his award for a thesis on his investigation into the role of brain stem mechanisms underlying pharyngeal function during such activities as sucking, swallowing, gagging and speech.

Dr. A.T. Storey of the University of Toronto's Division of Biological Sciences and Paedodontics was Dr. Kenny's faculty supervisor for this research and he received the Foundation's institutional trophy awarded to the university at which the prize-winning research was carried out.

Dr. Kenny received his B.Sc. degree from the University of Waterloo, his D.D.S. from the University of Western Ontario and his Diploma in Paedodontics from the University of Toronto. He is currently a Ph.D. candidate in oral biology (neurophysiology) at the University of Toronto.

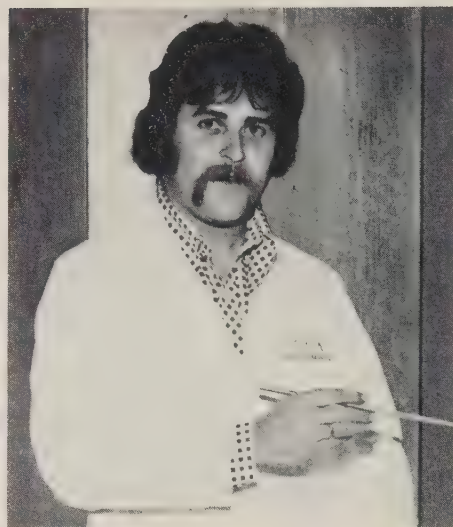
Dr. Kenny's research may ultimately have clinical application to speech disorders and to difficulties in sucking and swallowing, found particularly in children. He is continuing his work in this area at the University and plans to teach and to continue with clinical research in oral physiology.

Norman Thomas (left) congratulates David Kenny (centre) and A. T. Storey.



Dentsply awards:

STUDENT CLINICIAN WINNERS



Raymond Talbot (left) of Laval University took first place honors in the clinical application and technique category of the Student Table Clinic Competition presented at the CDA national convention. John B. Dickinson of the University of Toronto won first prize in the basic science and research category.

Outstanding student clinicians from across Canada were presented with Canadian Dental Association Student Awards on Sunday, October 6, by the Chairman of the Board of Dentsply International Ltd., Henry Thornton. Nine of Canada's ten accredited dental schools entered this year's contest, presenting 15-minute table-top demonstrations in some particular phase of dental research, diagnosis or procedure.

First prize winners in each of the two categories were: John Dickinson, University of Toronto, in the basic science and research category; and Raymond Talbot, Laval University, in the clinical application and technique section.

The subject of Mr. Dickinson's clinic was "the origin of the alveolar bone". His presentation was the result of two summers spent on a research project studying tooth and bone formation, with particular emphasis on the identification of the special cellular arrangement responsible for the initiation of teeth and bone in children and adults.

Mr. Talbot's theme was the "vertical condensation of the root canal" and he focussed on particular and exacting techniques for filling root canals, of everyday use in the dental office.

Second and third prize winners in the basic sciences division were Douglas

Jones of the University of Western Ontario and Stephen Ahing of McGill University.

In the clinical section, second and third prize winners were Ralph Clarke of the University of Alberta and Philip Cyr of Dalhousie University.

Other clinicians participating in the competition were: Jean-Claude Beaumont, University of Montreal; Douglas Campbell, University of Saskatchewan; and Frank Molnar of the University of Manitoba.

Chairman of the Student Table Clinic Program is Dr. Hector R. MacLean, former Dean of the University of Alberta's Faculty of Dentistry. He expressed great satisfaction with this year's presentations describing them as being "of high quality, well organized and well presented."

After each presentation the student clinician was offered help in the form of constructive criticism designed to improve his clinic. Those participating in the clinic competition are given the opportunity to join an alumni group of students who have presented clinics over the years.

Judges for this year's competition were: Dr. H. R. MacLean, Dr. David K. Peters and Dr. S. Silver.

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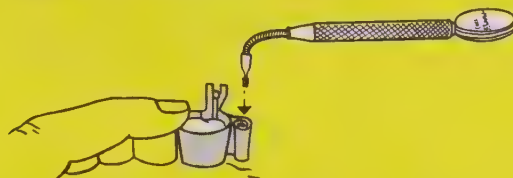


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Past-president David K. Peters installs 1975 president Fred Reid

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Platform guests and officials for the Opening Ceremonies, Sunday, October 6.



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A pleasant moment for two presidents — CDA's J. E. Abra and CDHA's Sherita Clark.



Table clinics garnered their share of interested delegates.



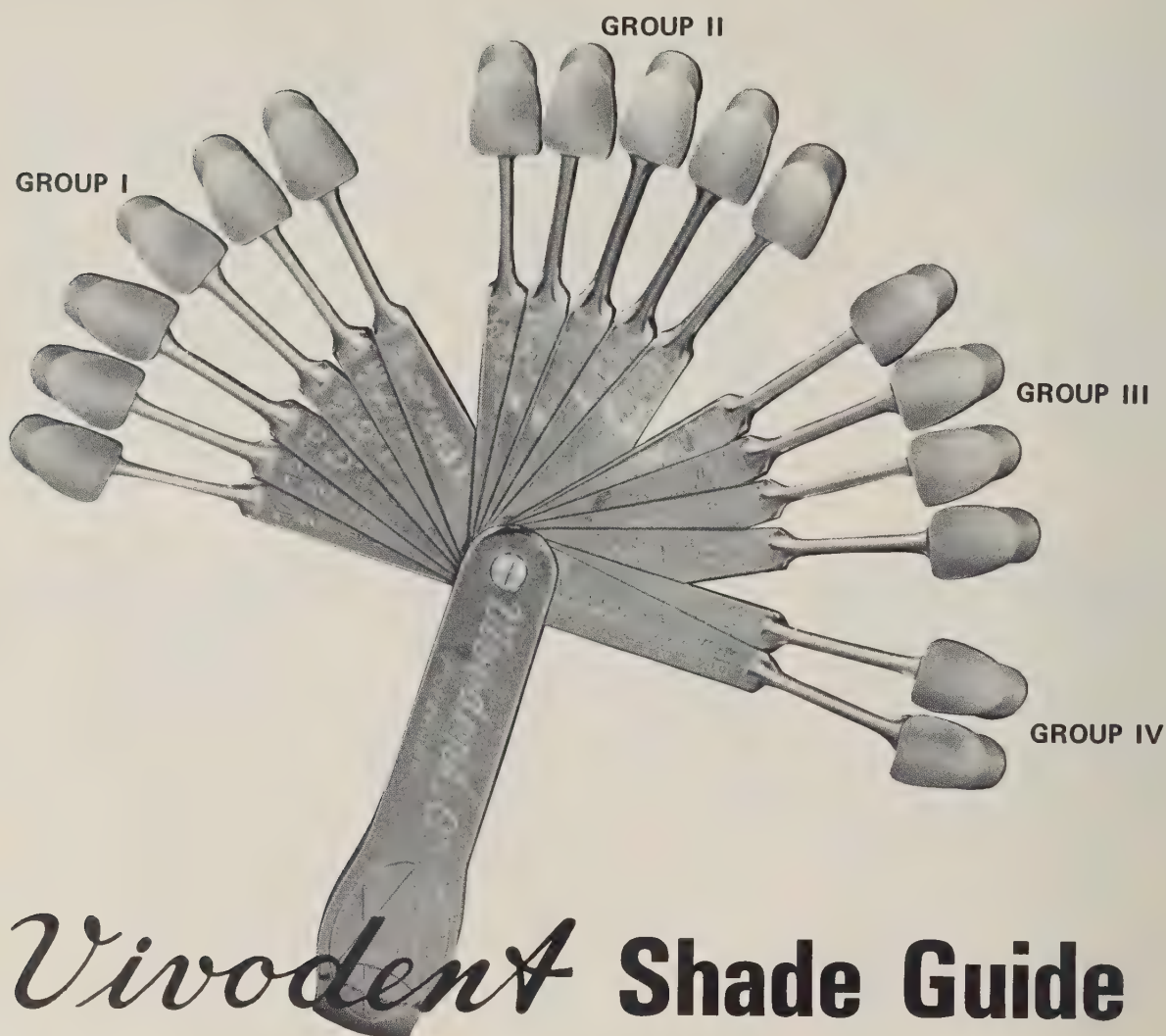
President-elect Lindsay Mussells and his wife receive congratulations

West Toronto Dental Hygienists admire their press clippings for "Preventive Pot Pourri" cookbook.



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Annual Board of Governors Meeting

HIGHLIGHTS

Among the resolutions which were approved at the October 3-5 annual meeting were the following:

- A resolution that the CDA Board of Governors and the CDA Task Force give consideration to making CDA membership a mandatory requirement for eligibility as an active member in all CDA sections.
- Approval to permit voting representation of one delegate from the Canadian Dental Students' Conference to the CDA Board of Governors.
- Approval for a non-voting representative on the Council on Education from the Canadian Dental Nurses and Assistants Association, such representation to be selected by the CDNAA and to be without CDA financial responsibility.
- A directive to the Executive Council to institute a study in co-operation with the corporate members on dental manpower needs.
- Provincial dental licensing authorities are to be requested to assist in the funding of the CDA accreditation program and commencing in January 1975, they are to be assessed an annual service fee of \$2 per licensed dentist in return for accreditation evaluations of Canadian undergraduate dental, dental hygiene and dental assisting programs, and graduate and postgraduate programs in CDA-recognized specialties.
- The Canadian Academy of Oral Pathology, as the national organization of the recognized specialty, was granted section status in the CDA.
- The Canadian Academy of Oral Radiology, as the national organization of the recognized specialty, was granted section status in the CDA.
- Action was deferred on the application for section status of the Association of Prosthodontists of Canada, in view of the fact that the Canadian Academy of Restorative Dentistry was not satisfied with the liaison

which was supposed to have taken place as the two groups worked together under the common definition approved by the Board in 1973.

- The Board directed the Council on Health Care to produce cost effectiveness studies of the various delivery systems, as soon as possible. This information is to be sent to corporate members and provincial voluntary dental associations as soon as it becomes available.
- The Board did not agree with the "sound tooth concept" for determining third party liability and, since it was the opinion of the Board that the need for such a definition was requested in order to limit the liability of the third party, it was resolved not to supply such a definition in view of the many sophisticated restorative and/or reconstructive techniques available.
- The Bureau of Dental Statistics was directed to establish a cost-of-practice index.
- A motion to cancel the national/provincial Bank Insurance Plan was passed and another to implement a revised loan protection disability plan was approved.

SECTION MEETINGS

Canadian Academy of Paedodontics

The Canadian Academy of Paedodontics elected a new executive during a recent business meeting in Toronto. Bev Richardson of Kitchener, Ont., is president; Gordon Jinks of Vancouver is vice president; and Frank Pulver of Toronto is secretary treasurer.

Orthodontists elect new officers

During the recent annual meeting of the Canadian Association of Orthodontists the following members were elected to executive positions for the 1974-1975 term of office: D. Eisner of Halifax, president; R. Mullen of Edmonton, president elect; R. Pileski of Hamilton, vice president; and J. J. Schachter of Saskatoon, secretary treasurer.

The 1975 annual meeting of the Association will be held in St. John's, Newfoundland, August 15-18.

Canadian Academy of Endodontics

Pierre Dow of Vancouver is the newly elected president of the Canadian Academy of Endodontics. Also elected at the Academy's recent annual meeting in Toronto were Ben Sedlezky of Montreal, president elect, and Paul Vanek of Ann Arbor, Michigan, secretary.

Canadian Academy of Oral Radiology

The Canadian Academy of Oral Radiology held its third general meeting on October 6 in Toronto. The new executive elected to office for the 1974-1975 term includes: D. W. Stoneman of Toronto, president; C. G. Baker of Winnipeg, president elect; A. Ruprecht of London, secretary; and Y. Panneton of Quebec City, treasurer.

Canadian Academy of Periodontology

John Findlay of Halifax is the new president of the Canadian Academy of Periodontology. Other officers elected during the Academy's annual meeting in October are James Hicks of Hamilton, president elect, and F. C. Lackie of Toronto, secretary treasurer.

TASK FORCE REPORT ON THE FUTURE OF THE CDA

Editor's note: In order to ensure that all members of the Canadian Dental Association have a full and complete understanding of the recommendations which have been proposed by the Task Force on the Future of the Canadian Dental Association, the *Journal* has undertaken to reprint all relevant sections, as a series which begins with this issue.

Organization

The Canadian Dental Association at the present time operates as a federation of corporate members drawn from the ten provinces of Canada. The Association is dependent on the goodwill and financial support of the corporate members. It has no power to enforce decisions on membership fees. The fee structure is designed to draw from each corporate member a per capita entitlement based on the number of members in each province. The corporate members traditionally have obtained their funds and the funds for support of the Canadian Dental Association through license fees. License fees, of course, are compulsory and therefore there has been no option for individual members to support or not support the Canadian Dental Association. Individual membership, in fact, is automatic on the recommendation of corporate members and it requires notice in writing by an individual member in order to resign from the Association.

The role of individual members is limited. They are entitled to receive the *Journal* and to attend scientific meetings (on payment of registration fees). They can stand for election or appointment to any office of the Association and they are entitled to the privilege of the floor at annual sessions of the Board of Governors. However they have no vote, either in terms of election of officers or on any matters of policy. In four provinces members have no vote in the selection of their representatives on the Board of Governors (British Columbia, Alberta,* Saskatchewan and Quebec). Their views can be expressed primarily through appeal to the representatives of their province on the Board of Governors, but they have not played a role in the selection of those representatives.

Due to new legislation in Ontario and Quebec, the arrangements which have been in force up to the present time are coming to an end. Legislative decisions in the two largest provinces effectively are requiring that the support

of voluntary professional associations become separated from compulsory licensing. Specifically, the legislation in Ontario makes it illegal for licensing bodies to collect on a compulsory basis fees which are to be used to pay for memberships in professional associations. The Government of Quebec has introduced analogous, though not identical legislation prohibiting payment from The Quebec College to any outside organization except in return for services rendered. Payments on a per capita basis are forbidden. These decisions reflect changing attitudes toward the traditional autonomy of professions. The issue was put succinctly in a report commissioned by the Ontario Medical Association which could be applied to all professions:

"There is no reason to believe that the medical profession is any more likely to escape the pressures and demands of consumerism than any other profession or business which charges a fee for a service rendered or a price for a product sold. Consumerism is not in the slightest degree interested in maintaining the status quo of the establishment. A well-informed, inquisitive and concerned public is increasingly making its demands known."¹

Thus in Quebec the Castonguay Commission, in Ontario the McClure Commission and the Committee on the Healing Arts, and in Alberta the Select Committee of Inquiry into the Professions, all have identified the importance of developing new policies for the organization and control of the professions.

The debate itself is not essential to the inquiries of the Task Force. However the central issue and the general thrust of the arguments are important because they lead to the prediction that other provinces are likely to follow the examples of Ontario and Quebec. The central issue can be stated simply. Licensing fees are intended to protect the public interest. Professional associations are generally designed to promote the profession's interests. The two are not necessarily synonymous and indeed ample opportunity exists for conflict of interest. In the words of one observer, "the assumption which underlies the present regime of professional self-government is that professionals are totally lacking in self-interest and without exception infused with a nobility of spirit and a sense of public service that other economic animals in our free enterprise system can only admire but never emulate. Needless to say there is no evidence to support the view that professionals walk among us as a special breed of esthetic philosopher kings."²

Task Force continued

The Task Force therefore predicts that in the future it is unlikely that any professional group will be allowed to use funds collected by licensing bodies for the support of voluntary associations of the profession. Since the legislative decisions have already been made in Canada's two largest provinces, it is clear that the Canadian Dental Association must seek a new organizational base. The present organization is no longer tenable. The Task Force believes that the Association must now face the fact that its future must depend on the voluntary support and membership of the individual dentists throughout Canada. This is not to say that the only source of funds will be individual memberships but that the latter must provide the foundation on which a strong and effective national association must depend. The Task Force does not believe that these circumstances should be viewed as a regrettable fact, forced on the Association by external decisions beyond its control. Rather the change to dependence on voluntary individual membership should be welcomed as a progressive step. The move inevitably will strengthen the relationship of the Association with its individual members. The Association's focus on members' concerns and interests will be sharpened by the harsh necessity of proving its worth. Since one of the Association's principal purposes is to serve the members of the profession, the forced reform should represent new opportunity and a gateway to a brighter future.

- 1. Report of the Special Committee Regarding the Medical Profession in Ontario, Ontario Medical Association.
- 2. Trebilock, M. J. Making Professions Accountable to the Public, Globe & Mail, Toronto, January 4, 1974.

*In Alberta, members choose a slate of nominees from among whom the representative is appointed.

Complete copies of the Task Force Report are available on written request to: Canadian Dental Association, 234 St. George Street, Toronto, Ontario M5R 2P2.

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ABRASIVITY OF DENTIFRICES

**Prepared by
D. J. Gau, DDS, MSD**

Dentifrices are commonly formulated with humectants, water, thickening agents, foaming agents, flavoring mixtures and significant amounts of abrasive (20-40 per cent abrasive in typical dentifrice pastes) to facilitate the removal of accessible plaque, debris and stain. The degree of abrasivity required may vary considerably from one individual to another. A few patients may be able to maintain adequate oral hygiene with a brush and water alone. However, most require some abrasive to assist in removing stained pellicle¹, and it should also be noted that most individuals prefer to use a dentifrice rather than simply a brush and water.²

No standards of effectiveness

A dentifrice should provide maximum cleaning with a minimum of abrasion to tooth tissues and restorative material.³ Unfortunately, there are no standards to measure effectiveness of cleaning or to define precisely what constitutes damage to the hard tissues by abrasives. The lack of definition in this important area is due to the complex nature of abrasive action in the oral cavity, and also, perhaps to the claims of some dentifrice manufacturers which tend to obscure the information that is available. The action of a dentifrice abrasive will depend upon many things: (1) the properties of the abrasive itself, such as its physical properties and the size and shape of the particles; (2) the properties of the material being abraded, such as its hardness and ductility; (3) the medium in which the abrasive action is taking place, for example, some admixtures may provide a lubricating effect to the abrasive; and (4) other factors, such as the load on and the speed of application of the abrasive and the frequency of brushing. Thus, it is very difficult to formulate valid and reliable dentifrice abrasivity tests.

Some authors^{4,5} suggest that an adequate evaluation profile of dentifrice abrasives should include cleaning ability, abrasive effects on all hard tooth tissues, and the ability to polish enamel. The validity of present-day test procedures is not well established; and considering the fact that there are many dentifrices on the market with formulation changes occurring fairly frequently, it is very difficult to establish up-to-date broadly-based abrasivity or cleaning/abrasivity indices. Classically, dentine abrasion has been used for the prediction of dentifrice abrasion effects. There is a rough correlation between level of abrasiveness and effectiveness of cleaning; however, recently manufacturers have been looking for exceptions to this cor-

Information presented in this series of commentaries on dental materials and devices is based on the latest available data, at time of writing. It is reported in good faith. No legal or other authority is claimed for the opinions expressed.

relation; that is, substances that clean or polish well without high abrasiveness. The search, which involves many inorganic compounds, resin particles and organic solvents, may also be motivated by attempts to obtain dentifrice formulations that have good compatibility among all the ingredients. For example, it has been demonstrated that some fluoride tooth pastes may lose most of the available fluoride after a few months on the shelf.⁶

Concepts of direct value

Knowledge in the area of dentifrice abrasives is incomplete and in some instances controversial; however, there are a few concepts that may be of direct value to the dentist. Available data, based primarily on dentine abrasive studies, are not an ideal index to dentifrice effectiveness or safety; but are the most up-to-date information we have and may be used by dentists to aid them in advising their patients.^{7,8} It does appear that most individuals require the use of dentifrices with some abrasive action to attain adequate oral hygiene and for removal of stains. Some patients will require very little abrasive action; others with heavy staining may require a rather abrasive dentifrice. Where there is no gingival recession, little injury to oral hard tissues will result from the judicious use of most dentifrices available on today's market. However, some compulsive brushers may damage enamel surfaces, especially if they use an abrasive dentifrice. The selection of a dentifrice for patients with exposed root surfaces is a more serious consideration and should be done carefully. One method that has been proposed for selecting an appropriate dentifrice for such patients is to have a patient use progressively more abrasive dentifrices for two-week periods until he arrives at a dentifrice that is just adequate to remove stained pellicle.⁹ All patients for dentifrice evaluation should be adequately instructed in brushing and oral hygiene techniques and should start each test period with adequately clean teeth. Some patients may start with just a brush and water or, perhaps, a salt and soda dentifrice before employing the ADA Guide on Abrasivity of Current Dentifrices to select a progression of increasing abrasivity for their test dentifrices.

It should also be observed that occasionally dentifrices are marketed that have high levels of abrasiveness for "whitening" teeth or they may contain bleaches and solvents that could have damaging effects on teeth, soft tissues, or some dental restorative materials.

Continued over page

Product	Manufacturer	No. of Lots	Abrasivity Index
T-Lak	Laboratoires Cazé	2	20 (20-21)†
Thermodent	Chas. Pfizer & Co.	2	24 (23-24)
Listerine	Warner-Lambert Pharm Co.	3	26 (22-30)
Pepsodent with zirconium silicate	Lever Brothers Co.	3	26 (23-29)
Amm-i-dent	Block Drug Co.	2	33 (31-34)
Colgate with MFP	Colgate-Palmolive Co.	3	51 (46-56)
Ultra-Brite	Colgate-Palmolive Co.	4	64 (52-82)
Macleans*, spearmint	Beecham Inc.	2	66 (66)
Macleans*, regular	Beecham Inc.	2	70 (68-72)
Pearl Drops	Cameo Chemicals	4	72 (65-83)
Crest, mint	Procter & Gamble Co.	5	81 (71-90)
Close-up	Lever Brothers Co.	5	85 (70-101)
Macleans, spearmint	Beecham Inc.	3	93 (85-99)
Macleans, regular	Beecham Inc.	3	93 (74-103)
Crest, regular	Procter & Gamble Co.	5	95 (77-110)
Gleem II	Procter & Gamble Co.	5	106 (88-136)
Plus White	Bishop Industries, Inc.	5	110 (91-141)
Phillips	Sterling Drug Inc.	2	114 (111-116)
Plus White Plus	Bishop Industries, Inc.	4	132 (96-181)
Vote	Bristol-Myers Co.	6	134 (112-162)
Sensodyne	Block Drug Co., Inc.	3	157 (151-168)
Iodent #2	Iodent Co.	2	174 (172-176)
Smokers Tooth Paste	Walgreen Lab., Inc.	2	202 (198-205)

*New formulation

†Average and range

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Abrasivity table

Table 1 is reprinted with permission of the American Dental Association. It is approximately three and one-half years old and in certain instances may not reflect the formulations that are currently marketed. It is believed, however, that formulation changes which have been made are relatively minor. Research evaluations on abrasivity of dentifrice products is continuing and, when the new information becomes available, will be published.

A number of laboratory tests for the determination of abrasivity have been proposed. Since dentine is the tissue of chief clinical concern, preparations of dentine from roots of teeth were used as test objects. The procedure involves a quantitative determination of the dentine removed by brushing roots of extracted teeth under controlled conditions¹⁰ using a reference abrasive or the test dentifrice. It should be emphasized that this is an in vitro test since there is no generally accepted procedure for measuring dental abrasion in vivo.

The abrasivity index (AI) of the dentifrice was determined by comparing the amount of dentine abraded by the dentifrice slurry (D) with the average amount of dentine removed in the pre- (a) and post- (b) reference abrasion, assigning the reference abrasive a value of 100.

$$A.I. = \frac{D}{\frac{1}{2}(a+b)} \times 100$$

The reference abrasive in this study is the same lot that has previously been assigned an RDA (Radioactive Dentine Abrasion) value of 475.

The specific level of abrasiveness for a product cannot be directly related to a specific clinical effect, whether this be

the product's ability to clean or its potential for harm; however, it should help the dentist to choose a dentifrice that will relate to the individual patient's needs.⁹

The last four paragraphs are reprinted with permission of the American Dental Association.

Dr. Gau is associate professor of dentistry, and chairman of the Department of Dental Materials, University of Alberta, Edmonton.

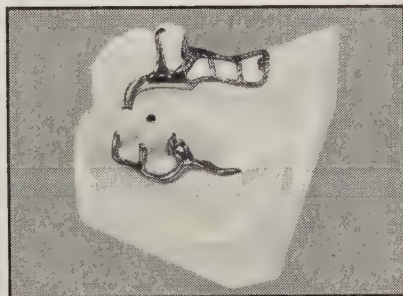
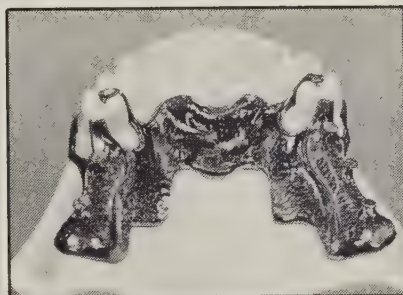
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ANNUAL INDEX

Volume 40, 1974

A

ABDULLAH, S.I., MOHAMMED, H. and GRASSO, J.E. — See Mohammed, H.

ABDULLAH, S.I., MOHAMMED, H. and THAYER, K.E. — Factors in the failure of cemented full crowns — 721

ABDULLAH, S.I., MOHAMMED, H. and THAYER, K.E. — Restoration of endodontically treated teeth: A review — 300

ABSCESS

PERIODONTAL

Harvey, R.F. — Single appointment therapy for a periodontal abscess — 372

ACINIC CELL TUMOURS

Main, J.H.P. — Salivary tumours of the mouth — 200

ACUPUNCTURE

Acupuncture — 253

ADENOMAS

Main, J.H.P. — Salivary tumours of the mouth — 200

ALLOYS

Mohammed, H., Graso, J.E. and Abdullah, S.I. — Application of non-precious alloys to crown and bridge procedures — 733

AMPICILLIN

de Vries, J. and Francis, L.E. — Broad spectrum antibiotics: Tetracycline, ampicillin and cephalixin — 385

ANESTHESIA AND ANESTHETIC GENERAL

NITROUS OXIDE

Goldstein, E. and Goldstein, M. — A clinical evaluation of nitrous oxide-oxygen sedation for dental procedures — 367

ANTIBIOTICS

de Vries, J. and Francis, L.E. — Antibiotic therapy for the practising dentist — 131

de Vries, J. and Francis, L.E. — Broad spectrum antibiotics: Tet-

racycline, ampicillin and cephalixin — 385

de Vries, J. and Francis, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

AUXILIARY PERSONNEL

The changing role in dental health delivery — 255

Davey, K.W. — Dental therapists in the Canadian North — 287

Dental auxiliaries — cultural shock — 253

B

BALIS, S.B., SCHUTZE, H.J., JR., and FORRESTER, D.J. — See Schutze, H.J., Jr.

BAROLET, R.Y. and DESAUTELS, P.C. —

New elastomeric impression materials — 488

BEAGRIE, G.S. — Throughout life: The need for continuing education — 434

BEAGRIE, G.S., MAIN, J.H.P., SMITH, D.C. and WALSHAW, P.R. — Polycarboxylate cement as a pulp capping agent — 378

BENE, A.A., NOVASKY, W.E. and GELDART, S.G. — Dental care in Alberta: Public attitudes, utilization patterns and socio-economic determinants — 444

BENIGN TUMOURS

Kennet, S. — Benign lesions simulating oral cancer — 203

BENTLEY, K.C. — Oral biopsies and cytological smears — 218

BIOPSY

Bentley, K.C. — Oral biopsies and cytological smears — 218

BLACKMORE, R.V. — Evolution of dental research in Canada — 363

BOWEN, L. — How to gain community fluoridation — 666

BRIDGEWORK

GOLD

Mohammed, H., Grasso, J.E. and Abdullah, S.I. — Application of non-precious alloys to crown and bridge procedures — 733

BURKELL, C.C. — Treatment and survival in oral cancer — 221

C

CANADIAN DENTAL ASSOCIATION

Block-head Charlie speaks out again (Editorial) — 408

Campfire chat (Editorial) — 476

Canadian dentistry's international activities (Editorial) — 89

Challenge for change (Editorial) — 576

Clarke, G.G. and Macdonald, J.B. — The attitudes of Canadian dentists towards the Canadian Dental Association, 1974 — 597

National Dental Health Week (Editorial) — 13

The post Task Force challenge (editorial) — 524

CANCER

ORAL

Burkell, C.C. — Treatment and survival in oral cancer — 221

Kennet, S. — Benign lesions simulating oral cancer — 203

Main, J.H.P. — Salivary tumours of the mouth — 200

Miller, A.B. — The epidemiology of oral cancer — 211

Spouge, J.D. — Clinical features of oral cancer — 207

The way ahead — 167

CARCINOMA

Main, J.H.P. — Salivary tumours of the mouth — 200

Spouge, J.D. — Clinical features of oral cancer — 207

The way ahead — 167

CARIES, DENTAL

ETIOLOGY AND CONTROL

Gourley, J.M. — A one year study of a fissure sealant in two Nova Scotia communities — 549

Kleinberg, I. — The role of dental plaque in caries and inflammatory periodontal disease — 56

Truuvert, M. — Help your patients "Kick the Sweet Snack Habit" — 41

DIET IN RELATION TO

Rubenstein, J. — Student-operated preventive care demonstration — 663

Truuvert, M. — Help your patients "Kick the Sweet Snack Habit" — 41

FLUORIDE FOR PREVENTION OF — IN WATER SUPPLIES

Bowen, L. — How to gain community fluoridation — 666

Heifetz, S.B., Horowitz, H.S. and Driscoll, W.S. — Utilization of fluorides in areas lacking central water supplies — 136

Schutze, H.J., Jr., Forrester, D.J. and Balis, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675

FLUORIDE FOR PREVENTION — TOPICAL APPLICATION

Schutze, H.J., Jr., Forrester, D.J. and Balis, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675

Stamm, J.W. — Fluoride uptake from topical sodium fluoride varnish measured by an in vivo enamel biopsy — 501

IN CHILDREN

Gourley, J.M. — A one year study of a fissure sealant in two Nova Scotia communities — 549

Schutze, H.J., Jr., Forrester, D.J. and Balis, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675

CATHERALL, D.M., SILVER, EASTEP and MYALL — See Silver, J.G.

CEMENT

POLYCARBOXYLATE

Beagrie, G.S., Main, J.H.P., Smith, D.C. and Walshaw, P.R. — Polycarboxylate cement as a pulp capping agent — 378

CEMENTATION

CROWNS

Abudullah, S.I., Mohammed, H. and Thayer, K.E. — Factors in the

failure of cemented full crowns — 721

CEPHALEXIN

de Vries, J. and Francis, L.E. — Broad spectrum antibiotics: Tetracycline, ampicillin and cephalixin — 385

CHEMOTHERAPY

de Vries, J. and Francis, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

CHICOINE, C. — ODQ's present motivational campaign — 669

CHILDREN

DENTISTRY FOR

Gourley, J.M. — A one year study of a fissure sealant in two Nova Scotia communities — 549

CLARKE, G.G. and MACDONALD, J.B. — The attitudes of Canadian dentists towards the Canadian Dental Association, 1974 — 597

CLINDAMYCIN

de Vries, J. and Francis, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

COMMUNITY AND SCHOOL DENTAL SERVICES

Rubenstein, J. — Student-operated preventive care demonstration — 663

CORRESPONDENCE

Allison, G.M. — Pros and cons of gifts — 474

Anderson, Robin K. — Use of ampicillin in dentistry — 573

Currie, Peter A. — Clindamycin: adverse effects — 474

de Tichauer, Ruth W. — "Dental appointment in Bolivia" — 343

de Vries, Joan — Clindamycin: adverse effects — 474

Grainger, R.M. — Editor's reply — 343

Kane, Robert — Clindamycin: adverse effects — 474

Leatherman, G.H. — Cancer of the Mouth — 343

Leatherman, G.H. — Dr. Donald Gullett — 86

McDonald, Murray D. — Reply from Canadian Fund for Dental Education — 86

Proctor, Donald B. — NDEB replies — 343

Purchase, Elizabeth F. — Cultural shock — 474

Purves, James D. — Comments on continuing education — 573

Roydhouse, Richard H. — Dental research — 523

Steinberg, Marvin — Activities of CFDE — 86

Truuvert, M. — Sweet snacks — 405

Zacharin, David — Sweet snacks — 405

CROWNS

CEMENTATION

Abdullah, S.I., Mohammed, H. and Thayer, K.E. — Factors in the failure of cemented full crowns — 721

GOLD

Mohammed, H., Grasso, J.E. and Abdullah, S.I. — Application of non-precious alloys to crown and bridge procedures — 733

CYTOLOGY

Bentley, K.C. — Oral biopsies and cytological smears — 218

D

DAVEY, K.W. — Dental therapists in the Canadian North — 287

DEATHS

Allen, Leslie Talmage — 534

Armstrong, John James — 187

Bennett, M. — 422

Bernstein, Frederick — 348

Berwick, Kenneth Cameron — 534

Black, Alan — 709

Bourdon, Emile — 348

Bradley, Harry Melville — 109

Breslin, William Wolfe — 534

Brownlee, Basil Ernest — 422

Burt, James Alexander — 348

Butler, John Arthur — 109

Campbell, J. Menzies — 534

Chalifoux, Isaie Edmond — 709

Clarke, George Frederick — 765

Clarke, George V.T. — 588

Clay, John William — 422

Crouch, Stanley Stuart — 109

Daniel, Herbert LaMert — 653

Davidson, Benjamin Gordon — 765

Dent, Charles Sidney — 348

Deschênes, Gilbert Hervé — 653

Donald, Stanley Keir — 484

Donnelly, Kenneth Patrick — 709

Eagan, James Alphonsus — 30

Egan, John Cameron — 765

Falconer, Robert L. — 109

Fletcher, Josiah David — 484

Garvin, Matthew Henry — 534

Geddes, Donald Currie — 765

Glascott, James Gordon — 30

Golding, James William — 588

Goodman, Abraham Lincoln — 653
 Gornitsky, Israel — 422
 Gowda, Faust — 765
 Hardy, George Howard — 109
 Harnish, Weldon E. — 422
 Hebert, Armand J. — 588
 Herron, Vernon Alexander — 109
 Hibberd, John H. — 109
 Hodgins, William John W. — 274
 Hodgson, Stanley Christie — 534
 Hopper, Anson Duncan — 109
 Hougen, Otto Rudolph — 274
 Hurton, Roderick George H. — 422
 Joudrey, Gordon Everett — 484
 Kanchier, Michael — 422
 Laberge, Guillaume — 274
 Lande, Nathan — 422
 Langille, Ralph Meredith — 422
 Lantier, Jacques Philippe — 709
 Lavers, Beverly de Wolfe — 653
 Layter, Gordon Craig — 187
 Le Brun, Wenceslas — 534
 Leroux, Fernand — 588
 Livett, John Chatteriss — 484
 Lundy, Benjamin — 765
 MacKenzie, Ian Grant — 422
 MacLeod, George Cameron — 109
 McCarron, Peter Francis — 765
 McGowan, James Cooney — 484
 Meloche, Roger — 709
 Mills, John Thomas — 422
 O'Brien, Chester Raphael — 348
 O'Meara, Brian Joseph — 187
 Racine, Anthime — 187
 Ratté, Joseph Jules Gustave — 588
 Robert, Louis Philippe — 422
 Ross, John Alexander — 187
 Rupert, Ernest Arthur — 348
 Ryan, Frederick Curtis — 484
 Shapera, Clifford G. — 187
 Shillington, Gordon Benjamin — 274
 Sinanan, Kenneth — 709
 Sinclair, William A. — 422
 Smith, Frederick Robert — 765
 Spratt, Oliver Campbell — 534
 Steed, Hamilton Graeme — 109
 Stern, Louis Arthur — 484
 Stewart, Harry Raymond — 422
 Strauss, Samuel — 187
 Stroud, Milton Carl — 422
 Town, John William — 348
 Veitch, Ernest Claude — 422
 Wallace, Donald Meyers — 30
 Watson, Thomas Alexander — 109
 Werry, Samuel George — 109
 Wood, Arthur Dobson — 653

DEMIRJIAN, A., JENICEK, M. and PERREAULT, J.G. — See Perreault, J.G.

DENTAL PERSONNEL

Davey, K.W. — Dental therapists in the Canadian North — 287
 The changing role in dental health delivery — 255
 Dental auxiliaries — cultural shock (Editorial) — 253
 How are you going to keep 'em down on the farm? (Editorial) — 167

DENTAL PRACTICE

Antibiotic Therapy for the practising dentist (Editorial) — 13
 de Vries, J. and Francis, L.E. — Antibiotic therapy for the practising dentist — 131
 de Vries, J. and Francis, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

GROUP AND PARTNERSHIP

Paterson, W.S. — New approach to work scheduling — 285

IN CANADIAN NORTH

Davey, K.W. — Dental therapists in the Canadian North — 287

DENTIFRICES

ABRASIVITY

Gau, D. J. — Abrasivity of Dentifrices — 785

DENTISTRY

IN ALBERTA

Bene, A.A., Novasky, W.E. and Geldart, S.G. — Dental care in Alberta: Public attitudes, utilization patterns and socio-economic determinants — 444

IN BOLIVIA

Echlin, R. — Dental appointment with the sceptical Aymarás of Bolivia — 118

IN CANADA

Block-head Charlie speaks out again (Editorial) — 408
 Clarke, G.G. and Macdonald, J.B. — The attitudes of Canadian dentists towards the Canadian Dental Association, 1974 — 597
 Continuing education and re-education — 408
 How are you going to keep 'em down on the farm? (Editorial) — 167
 National Dental Health Week (Editorial) — 13
 The post Task Force challenge (Editorial) — 524

IN QUEBEC

Chicoine, C. — ODQ's present motivational campaign — 669

IN SASKATCHEWAN

Epstein, J.B., Moore, D.M. and McPhail, C.W.B. — How much does the public know about preventive dental health? — 657

INTERNATIONAL RELATIONSHIPS

Canadian dentistry's international activities — 89

PREVENTIVE EDUCATION

National Dental Health Week — 13

Truuvert, M. — Help your patients "Kick the Sweet Snack Habit" — 41

PREVENTIVE

Bowen, L. — How to gain community fluoridation — 666

Chicoine, C. — ODQ's present motivational campaign — 669

Epstein, J.B., Moore, D.M. and McPhail, C.W.B. — How much does the public know about preventive dental health? — 657

Preventive public dental health programs — 644

Rubenstein, J. — Student-operated preventive care demonstration — 663

PUBLIC RELATIONS

Communication: the profession and the public — 19

DENTIST'S CIVIC RESPONSIBILITY

Communication: the profession and the public — 19

DESAUTELS, P.C. and BAROLET, R.Y. — See Barolet, R.Y.

DE VRIES, J. and FRANCIS, L.E. — Antibiotic therapy for the practising dentist — 131

DE VRIES, J. and FRANCIS, L.E. — Broad spectrum antibiotics: Tetracycline, ampicillin and cephalixin — 385

DE VRIES, J. and FRANCIS, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

DIAGNOSIS

ORAL

Bentley, K.C. — Oral biopsies and cytological smears — 218

Burkell, C.C. — Treatment and survival in oral cancer — 221

Kennett, S. — Benign lesions simulating oral cancer — 203

Main, J.H.P. — Salivary tumours of the mouth — 200

McMurchy, K.A. — White lesions of the oral mucosa — 226
Spouge, J.D. — Clinical features of oral cancer — 207
The way ahead — 167

DIET AND NUTRITION IN RELATION TO TEETH

Rubenstein, J. — Student-operated preventive care demonstration — 663
Truuvert, M. — Help your patients "Kick the Sweet Snack Habit" — 41
DRISCOLL, W.S., HEIFETZ and HOROWITZ — See Heifetz, S.B.

E

EASTEP, P.B., SILVER, J.G., CATHERALL, D.M., and MYALL, R.W.T. — See Silver, J.G.
ECHLIN, R. — Dental appointment with the sceptical Aymará of Bolivia — 118

EDITORIALS

Acupuncture — 253
Antibiotic therapy for the practising dentist — 13
Block-head Charlie speaks out again — 408
Campfire chat — 476
Canadian dentistry's international activities — 89
Continuing education and re-education — 408
Dental auxiliaries — cultural shock — 253
Dental research in Canada — 335
Fluorides and dental health care — 89
How are you going to keep 'em down on the farm — 167
National Dental Health Week — 13
The calm pianist — 755
The post Task Force challenge — 524
Preventive public dental health programs — 644
We have a good thing going! — 644
The way ahead — 167

EDUCATION, DENTAL

Neilson, J.W. — The three D's — 654

CONTINUING

Beagrie, G.S. — Throughout life: The need for continuing education — 434

Continuing education and re-education — 408
Status of continuing education — 430
We have a good thing going! — 644
The way ahead — 167

PREVENTIVE DENTISTRY

Bowen, L. — How to gain community fluoridation — 666
Chicoine, C. — ODQ's present motivational campaign — 669
Preventive public dental health programs — 644
Rubenstein, J. — Student-operated preventive care demonstration — 663

EDUCATION OF PUBLIC

Bowen, L. — How to gain community fluoridation — 666
Chicoine, C. — ODQ's present motivational campaign — 669
Preventive public dental health programs — 644
Rubenstein, J. — Student-operated preventive care demonstration — 663
Truuvert, M. — Help your patients "Kick the Sweet Snack Habit" — 41

ENDODONTICS

Abdullah, S.I., Mohammed, H. and Thayer, K.E. — Restoration of endodontically treated teeth: A review — 300

EPSTEIN, J.B., MOORE, D.M. and McPHAIL, C.W.B. — How much does the public know about preventive dental health? — 657

EQUIPMENT, DENTAL

Thorne Gunn & Co. Report — Purchase vs. Leasing — 191

ERYTHROMYCIN

de Vries, J. and Francis, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

ESKIMOS

DENTAL CARE FOR

Davey, K.W. — Dental therapists in the Canadian North — 287

EXECUTIVE AFFAIRS — 527, 578, 646

EXECUTIVE DIRECTOR'S PAGE — 17, 91, 169, 257, 339

F

FIREMAN, S.M. and POYTON, H.G. — See Poyton, H.G.

FLUORIDE

CARIES, PREVENTION OF

Fluorides and dental health care — 89
Schutze, H.J., Jr., Forrester, D.J. and Balis, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675

IN WATER SUPPLIES

Bowen, L. — How to gain community fluoridation — 666
Fluorides and dental health care — 89
Heifetz, S.B., Horowitz, H.S. and Driscoll, W.S. — Utilization of fluorides in areas lacking central water supplies — 136
Schutze, H.J., Jr., Forrester, D.J. and Balis, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675

TABLETS

Heifetz, S.B., Horowitz, H.S. and Driscoll, W.S. — Utilization of fluorides in areas lacking central water supplies — 136

THERAPY

Heifetz, S.B., Horowitz, H.S. and Driscoll, W.S. — Utilization of fluorides in areas lacking central water supplies — 136

TOPICAL APPLICATION

Heifetz, S.B., Horowitz, H.S. and Driscoll, W.S. — Utilization of fluorides in areas lacking central water supplies — 136
Schutze, H.J., Jr., Forrester, D.J. and Balis, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675
Stamm, J.W. — Fluoride uptake from topical sodium fluoride varnish measured by an in vivo enamel biopsy — 501

FORRESTER, D.J., BALIS, S.B. and SCHUTZE, H.J., Jr. — See Schutze, H.J., Jr.

FRANCIS, L.E. — Current problems to a dental research career — 360

FRANCIS, L.E. and DE VRIES — See de Vries, J.

G

GAU, D.J. — Abrasivity of Dentifrices — 785

GELDART, S.G., BENE, A.A. and NOVASKY, W.E. — See Bene, A.A.

GINGIVA

DISEASES

Kleinberg, I. — The role of dental plaque in caries and inflammatory periodontal disease — 56

GOLDSTEIN, E. and GOLDSTEIN, M. — A clinical evaluation of nitrous oxide-oxygen sedation for dental procedures — 367

GOLDSTEIN, M. and GOLDSTEIN, E. — See Goldstein, E.

GOURLEY, J.M. — A one year study of a fissure sealant in two Nova Scotia communities — 549

GRASSO, J.E., ABDULLAH, S.I. and MOHAMMED, H. — See Mohammed, H.

H

HANNAM, A.G., SIU, W. and TOM, J. — A comparison of monopolar and bipolar pulp-testing — 124

HARVEY, R.F. — Single appointment therapy for a periodontal abscess — 372

HEADGEAR

PROTECTIVE

Search for Safety — 338

HEIFETZ, S.B., HOROWITZ, H.S. and DRISCOLL, W.S. — Utilization of fluorides in areas lacking central water supplies — 136

HOROWITZ, H.S., DRISCOLL, W.S., and HEIFETZ, S.B. — See Heifetz, S.B.

HUNTER, W. STUART — Dental research: Avocation or vocation — 359

HYPERKERATOSIS

McMurchy, K.A. — White lesions of the oral mucosa — 226

I

IMPRESSIONS

MATERIALS

Barolet, R. Y. and Desautels, P.C. — New elastomeric impression materials — 488

INCOME TAX

Federal Income Tax returns by dentists — 45

INSURANCE AND INVESTMENT FOR DENTISTS

Retirement Savings Plan — 31

Your security — 8

Your security — Liability claims — 712

J

JENICEK, M., PERREAULT, J.G. and DEMIRJIAN, A. — See Perreault, J.G.

K

KENNET, S. — Benign lesions simulating oral cancer — 203

KLEINBERG, I. — The role of dental plaque in caries and inflammatory periodontal disease — 56

L

LABOUR SUPPLY

How are you going to keep 'em down on the farm? — 167

LESIONS

OF THE MOUTH

Bentley, K.C. — Oral biopsies and cytological smears — 218

Kenneth, S. — Benign lesions simulating oral cancer — 203

McMurchy, K.A. — White lesions of the oral mucosa — 226

Spouge, J.D. — Clinical features of oral cancer — 207

LEUKOPLAKIA

McMurchy, K.A. — White lesions of the oral mucosa — 226

LICHEN PLANUS

McMurchy, K.A. — White lesions of the oral mucosa — 226

M

MACDONALD, J.B. and CLARKE, G.G. — See Clarke, G.G.

MAIN, J.H.P. — Salivary tumours of the mouth — 200

MAIN, J.H.P., SMITH, D.C., WALSHAW, P.R. and BEAGRIE, G.S. — See Beagrie, G.S.

MATERIA MEDICA AND THERAPEUTICS

de Vries, J. and Francis, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

MATERIALS, DENTAL

Barolet, R. Y. and Desautels, P.C. — New elastomeric impression materials — 488

Gau, D.J. — Abrasivity of Dentifrices — 785

Mohammed, H., Grasso, J.E. and Abdullah, S.I. — Application of non-precious alloys to crown and bridge procedures — 733

McMURCHY, K.A. — White lesions of the oral mucosa — 226

McPHAIL, C.W.B., EPSTEIN, J.B. and MOORE, D.M. — See Epstein, J.B.

MEMORIAM, IN

Campbell, J. Menzies — 534

Clay, John W. — 419

Deschênes, Gilbert Hervé — 719

Garvin, Matthew Henry — 534

Hibberd, John H. — 109

Ratté, J.J. Gustave — 588

METALLURGY, DENTAL

Mohammed, H., Grasso, J.E. and Abdullah, S.I. — Application of non-precious alloys to crown and bridge procedures — 733

MILLER, A.B. — The epidemiology of oral cancer — 211

MOHAMMED, H., GRASSO, J.E. and ABDULLAH, S.I. — Application of non-precious alloys to crown and bridge procedures — 733

MOHAMMED, H., THAYER, K.E. and ABDULLAH, S.I. — See Abdullah, S.I.

MOORE, D.M., McPHAIL, C.W.B. and EPSTEIN, J.B. — See Epstein, J.B.

MOUTH

LESIONS

Bentley, K.C. — Oral biopsies and cytological smears — 218

Kennett, S. — Benign lesions simulating oral cancer — 203

McMurchy, K.A. — White lesions of the oral mucosa — 226

Spouge, J.D. — Clinical features of oral cancer — 207

DISEASES

McMurchy, K.A. — White lesions of the oral mucosa — 226

REHABILITATION

Abdullah, S.I., Mohammed, H. and Thayer, K.E. — Restoration of endodontically treated teeth: A review — 300

MOUTHPIECES

PROTECTIVE

Search for safety — 338

MUCO-EPIDERMOID TUMOURS

Main, J.H.P. — Salivary tumours of the mouth — 200

MYALL, R.W.T., SILVER, J.G., CATHERALL, D.M. and EASTEP, P.B. — See Silver, J.G.

N

NEILSON, J.W. — The three D's — 654

NITROUS OXIDE

Goldstein, E. and Goldstein, M. — A clinical evaluation of nitrous oxide-oxygen sedation for dental procedures — 367

NOVASKY, W.E., GELDART, S.G. and BENE, A.A. — See Bene, A.A.

O

ORAL SURGERY

DIAGNOSIS

Bentley, K.C. — Oral biopsies and cytological smears — 218

Burkell, C.C. — Treatment and survival in oral cancer — 221
The way ahead — 167

ORDER OF QUEBEC DENTISTS

Chicoine, C. — ODQ's present motivational campaign — 669

ORGANIZATIONS, DENTAL

Chicoine, C. — ODQ's present motivational campaign — 669

Communication: the profession and the public — 19

P

PAIN

PREVENTION AND CONTROL

Acupuncture — 253

PATERSON, W.S. — New approach to work scheduling — 285

PENICILLIN

de Vries, J. and Francis, L.E. — Penicillin substitutes — erythromycin and clindamycin — 295

PERCIVAL, L. — Decade of decay — 496

PERIODONTAL ABSCESS

Harvey, R.F. — Single appointment therapy for a periodontal abscess — 372

PERIODONTAL DISEASE

ETIOLOGY AND RELATION TO SYSTEMIC CONDITION

Kleinberg, I. — The role of dental plaque in caries and inflammatory periodontal disease — 56

PERIODONTAL TISSUE DISEASES

Kleinberg, I. — The role of dental plaque in caries and inflammatory periodontal disease — 56

PERREAULT, J.G., DEMIRJIAN, A. and JENICEK, M. — Emergence des dents permanentes chez les enfants canadiens-français — 306

PHYSICAL FITNESS

Percival, L. — Decade of decay — 496

PLAQUE, DENTAL

Kleinberg, I. — The role of dental plaque in caries and inflammatory periodontal disease — 56

POYTON, H.G. and FIREMAN, S.M. — The oblique lateral radiographic projection in dental practice — 727

PREVENTIVE DENTISTRY

Bowen, L. — How to gain community fluoridation — 666

Rubenstein, J. — Student-operated preventive care demonstration — 663

Epstein, J.B., Moore, D.M. and McPhail, C.W.B. — How much does the public know about preventive dental health? — 657

EDUCATION

Bowen, L. — How to gain community fluoridation — 666

Chicoine, C. — ODQ's present motivational campaign — 669

Preventive public dental health programs — 644

Rubenstein, J. — Student-operated preventive care demonstration — 663

FLUORIDE

Bowen, L. — How to gain community fluoridation — 666

Schutze, H.J., Jr., Forrester, D.J. and Balis, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675

PUBLIC RELATIONS

IN DENTISTRY

Communication: the profession and the public — 19

PULP

CAPPING

Beagrie, G.S., Main, J.H.P., Smith, D.C. and Walshaw, P.R. — Polycarboxylate cement as a pulp capping agent — 378

TESTING

Hannam, A.G., Siu, W. and Tom, J. — A comparison of monopolar and bipolar pulp-testing — 124

R

RADIATION

BIOLOGICAL SMEARS

Burkell, C.C. — Treatment and survival in oral cancer — 221

RESEARCH

DENTAL

Blackmore, R.V. — Evolution of dental research in Canada — 363

Dental research in Canada — 335

Francis, L.E. — Current problems to a dental research career — 360

Hunter, W. Stuart — Dental research: Avocation or vocation — 359

ROENTGENOLOGY TECHNIQUE

Burkell, C.C. — Treatment and survival in oral cancer — 221

Poyton, H.G. and Fireman, S.M. — The oblique lateral radiographic projection in dental practice — 727

Silver, J.G., Catherall, D.M., Eastep, P.B. and Myall, R.W.T. — Sequential reproduction of intra-oral radiographs — 51

REHABILITATION OF MOUTH

Abdullah, S.I., Mohammed, H. and Thayer, K.E. — Restoration of endodontically treated teeth: A review — 300

ROOT CANALS

Abdullah, S.I., Mohammed, H. and Thayer, K.E. — Restoration of endodontically treated teeth: A review — 300

RUBENSTEIN, J. — Student-operated preventive care demonstration — 663

S

SALIVARY GLANDS TUMOURS

Main, J.H.P. — Salivary tumours of the mouth — 200

Spouge, J.D. — Clinical features of oral cancer — 207

SCHUTZE, H.J., Jr., FORRESTER, D.J. and BALIS, S.B. — Evaluation of a fluoride prophylaxis paste in a fluoridated community — 675

SILVER, J.G., CATHERALL, D.M., EASTEP, P.B. and MYALL, R.W.T. — Sequential reproduction intra-oral radiographs — 51

SIU, W., TOM and HANNAM — See Hannam, A.G.

SMITH, D.C., WALSHAW, P.R., BEAGRIE, G.S. and MAIN, J.H.P. — See Beagrie, G.S.

SODIUM FLUORIDE

Stamm, J.W. — Fluoride uptake from topical sodium fluoride varnish measured by an in vivo enamel biopsy — 501

SPECIAL FEATURES

Beagrie, G.S. — Throughout life: The need for continuing education — 434

Bowen, L. — How to gain community fluoridation — 666
 Chicoine, C. — ODQ's present motivational campaign — 669
 Davey, K.W. — Dental therapists in the Canadian North — 287
 Echlin, R. — Dental appointment with the sceptical Aymarás of Bolivia — 118
 Epstein, J.B., Moore, D.M. and McPhail, C.W.B. — How much does the public know about preventive dental health? — 657
 Neilson, J.W. — The three D's — 654
 Paterson, W.S. — New approach to work scheduling — 285
 Percival, L. — Decade of decay — 496
 Rubenstein, J. — Student-operated preventive care demonstration — 663
 Status of continuing education — 430
 Thorne Gunn & Co. Report — Purchase vs. Leasing — 191
 Truvert, M. — Help your patients "Kick the Sweet Snack Habit" — 41
 SPOUGE, J.D. — Clinical features of oral cancer — 207

STAMM, J.W. — Fluoride uptake from topical sodium fluoride varnish measured by an in vivo enamel biopsy — 501

T

TETRACYCLINE
 de Vries, J. and Francis, L.E. — Broad spectrum antibiotics: Tetracycline, ampicillin and cephalixin — 385
THAYER, K.E., ABDULLAH, S.I. and MOHAMMED, H. — See Abdullah, S.I.
THORNE GUNN & CO. — Purchase vs. Leasing — 191
TOM, J., HANNAM, A.G. and SIU, W. — See Hannam, A.G.
TOOTH PASTES
 Gau, D.J. — Abrasivity of Dentifrices — 785
TOOTH POWDERS
 Gau, D.J. — Abrasivity of Dentifrices — 785
TRUVERT, M. — Help your patients "Kick the Sweet Snack Habit" — 41

V

VIEWPOINT

The changing role in dental health delivery — 255
 Communication: the profession and the public — 19
 Search for Safety — 338

W

WALSHAW, P.R., BEAGRIE, G.S., MAIN, J.H.P. and SMITH, D.C. — See Beagrie, G.S.

X

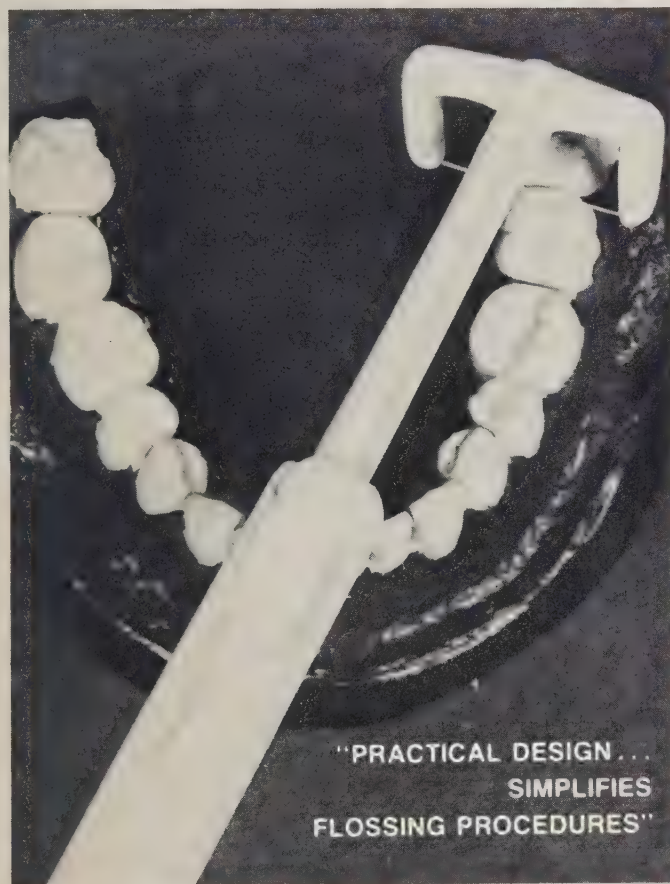
X-RAYS

TECHNIQUE

Burkell, C.C. — Treatment and survival in oral cancer — 221
 Poyton, H.G. and Fireman, S.M. — The oblique lateral radiographic projection in dental practice — 727
 Silver, J.G., Catherall, D.M., Eastep, P.B. and Myall, R.W.T. — Sequential reproduction of intra-oral radiographs — 51

TREATMENT

Burkell, C.C. — Treatment and survival in oral cancer — 221



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INDEX ANNUEL

Volume 40, 1974

A

ASSOCIATION DENTAIRE CANADIENNE

Clarke, G.G. et Macdonald, J.B. — Analyse de l'attitude des dentistes canadiens à l'égard de l'Association dentaire canadienne, d'après un sondage mené en 1974 — 617

Un défi à l'amélioration — 576

Rapport spéciale de la conférence du Conseil des Gouverneurs — 33

ASSURANCES ET PLACEMENTS POUR LA PROFESSION DENTAIRE

Votre sécurité — 38

Votre sécurité — Les réclamations des dommages matériels — 712

C

CHICOINE, C. — L'évolution de la campagne actuelle de motivation amorcée par l'ODQ — 671

CLARKE, G.G. et MACDONALD, J.B. — Analyse de l'attitude des dentistes canadiens à l'égard de l'Association dentaire canadienne, d'après un sondage mené en 1974 — 617

D

DECES — Voir Deaths dans l'index anglais

DEMIRJIAN, A., JENICEK, M. et PERREAULT, J.G. — Voir Perreault, J.G.

LA DENTISTERIE AU CANADA

Clarke, G.G. et Macdonald, J.B. — Analyse de l'attitude des dentistes canadiens à l'égard de l'Association dentaire canadienne, d'après un sondage mené en 1974 — 617

Les dentistes de demain seront-ils des salariés? — 700

AU QUEBEC

Chicoine, C. — L'évolution de la

campagne actuelle de motivation amorcée par l'ODQ — 671

Les dentistes de demain seront-ils des salariés? — 700

DENTS

PERMANENTES

Perreault, J.G., Demirjian, A. et Thayer, K.E. — Emergence des dents permanentes chez les enfants canadiens-français — 306

E

EDUCATION DU PUBLIC

Chicoine, C. — L'évolution de la campagne actuelle de motivation amorcée par l'ODQ — 671

EFFECTIF DE LA MAIN D'OEUVRE

Enquête sur les effectifs dentaires — 15

ENFANTS

L'ART DENTAIRE POUR

Perreault, J.G., Demirjian, A. et Thayer, K.E. — Emergence des dents permanentes chez les enfants canadiens-français — 306

EXAMEN DE LA MAIN-D'OEUVRE DENTAIRE

Enquête sur les effectifs dentaires — 15

EXERCICE DENTAIRE AU CANADA

Les dentistes de demain seront-ils des salariés? — 700

Innovations en pratique dentaire — 15

I

IMPOT SUR LE REVENU

Déclaration fédérale d'impôt sur le revenu — 45

J

JENICEK, M., PERREAULT, J.G. et DEMIRJIAN, A. — Voir Perreault, J.G.

M

MACDONALD, J.B. et CLARKE, G.G. — Voir Clarke, G.G.

O

L'ORDRE DES DENTISTES DU QUEBEC

Chicoine, C. — L'évolution de la campagne actuelle de motivation amorcée par l'ODQ — 671

ORGANISMES DENTAIRES

Chicoine, C. — L'évolution de la campagne actuelle de motivation amorcée par l'ODQ — 671

P

PAGE EDITORIALE

Un défi à l'amélioration — 576

Les dentistes de demain seront-ils des salariés? — 700

Enquête sur les effectifs dentaires — 15

Innovations en pratique dentaire — 15

PERREAULT, J.G., DEMIRJIAN, A. et JENICEK, M. — Emergence des dents permanentes chez les enfants canadiens-français — 306

PERSONNEL DENTAIRE

Enquête sur les effectifs dentaires — 15

R

REPORTAGES

Chicoine, C. — L'évolution de la campagne actuelle de motivation amorcée par l'ODQ — 671

Rapport spéciale de la conférence du Conseil des Gouverneurs — 33

S

SCIENCE ECONOMIQUE PAR RAPPORT A L'EXERCICE DENTAIRE

Les dentistes de demain seront-ils des salariés? — 700

Enquête sur les effectifs dentaires — 15

SOINS PREVENTIFS

EDUCATION

Chicoine, C. — L'évolution de la campagne actuelle de motivation amorcée par l'ODQ — 671

STATISTIQUES

DENTISTES

Enquête sur les effectifs dentaires — 15

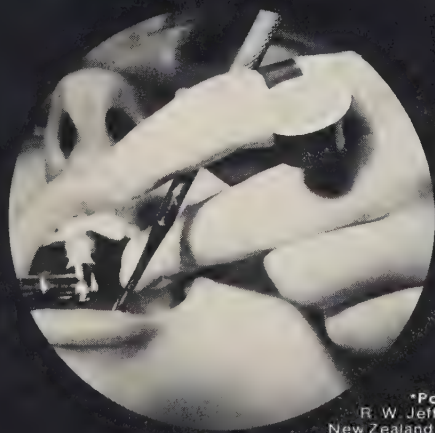
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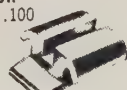
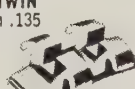
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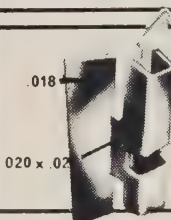
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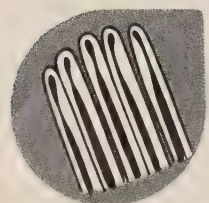
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Denco	765
Dentsply International	752, 761, 766
Federacion Dental del Pacifico	764
Charles E. Frosst & Co.	756
General Electric Medical Systems	788
Janar Co. Inc.	797
Kodak Canada Ltd.	798
Nobilium Products of Canada	758
Pfingst & Company Inc.	783
Procter & Gamble	751
Alan Scott Industries	801
Tek-Hughes	784
Ticonium Company	787
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